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PROCEEDINGS OF THE UNITED STATES AIR FORCE STINFO OFFICERS POLI--ETC(U)
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PROCEEDINGS OF THE UNITED STATES AIR FORCE STINFO OFFICERS POLICY CONFERENCE - 1981

Mr. James G. Johnson

August 1982

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FOR THE COMMANDER

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### **EXECUTIVE SUMMARY**

The 1981 STINFO Officers Policy Conference, hosted by Air Force Wright Aeronautical Laboratories, was held at the Officers Club, Wright-Patterson Air Force Base, Ohio, 17-19 November 1981.

The Conference was intended to provide a forum to exchange ideas and experiences and, hopefully, to resolve problems facing individual STINFO Officers. The Conference also provided a means to form recommendations to improve the USAF STINFO Program.

Attendance was gratifying - over 100 individuals from various Air Force commands participated. During the Conference, several important facets of the STINFO Program were addressed. Most of the discussions are documented in this report.

During the Conference, we used the Crawford Slip Method (a think-tank technology designed for people to express their ideas in written form rather than orally) to amass ideas on what the current problems are in the STINFO Program, what are the remedies, and what should be included in the training of STINFO Officers.

As a result of the STINFO Conference, the following issues will be perused during the coming year:

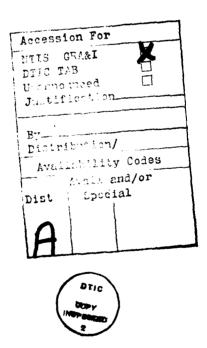
- More emphasis on STINFO in major commands (SAC, MAC, TAC, etc.)
- More interaction between the STINFO Program and the Information for Industry Office.
- Resurrection of a STINFO Training Program.
- Continue work on the STINFO Officers Handbook.
- Publicize the STINFO Program within commands so that everyone is aware of what the STINFO Program is and what it can do.
- More emphasis on getting information to the scientist/engineer/ manager.
- Examine the feasibility of merging the HQ AFSC command librarian tasks within the STINFO function.
- Improve the communication between and within the STINFO Program.

### AFWAL-TR-82-0002

Additional issue areas will be identified after the slips used in the Crawford Siip Method are analyzed.

The entire STINFO Conference was video-recorded. Anyone desiring to view the entire program, or portions of it, may contact Mr. Walter Blados, HQ AFSC/DLXM, Andrews AFB, MD 20334 (301-981-4493/AV 858-4493) or Mr. James Johnson, AFWAL/TST, Wright-Patterson AFB, OH 45433 (513-255-5804/AV 785-5804).

The work and support by the AFWAL Technical Information Center personnel in making the Conference so successful is acknowledged and appreciated. Special thanks to Mrs. Helen Lovelace, Mrs. Jackie Doben, Mr. William Whelan, Mr. Alan Robinson, Mr. Tom Myers, and Senior Airman Wayne Tidd. A note of appreciation and thanks to Mr. James Krug II for his efforts in compiling and editing the proceedings into a technical report.



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### INTRODUCTION

### MR. WALTER BLADOS

Ladies and Gentlemen:

It is indeed a pleasure to be with you here today for the USAF STINFO Officers Policy Conference - 1981. On behalf of the Air Force, I wish to thank all of you for taking time from your busy schedule in order to consider some of the communication and management problems which are associated with the STINFO Program. I also wish to thank our host, Air Force Wright Aeronautical Laboratories, for helping with the arrangements for this conference.

A few of the problems that we are faced with are identified by the title identifiers in the agenda. In the next few days we shall discuss them and try to explore them in greater detail, and hopefully emerge with concrete proposals and recommendations leading to an over-all improvement of the management and the processes of the Air Force STINFO Program.

I hope that you have all come here not to be members of a passive audience, but rather to gain some insight from the experiences of others, to discuss current problems, and to recommend common courses of action. I would like to emphasize the last point.

Your recommendations should be considered from the viewpoint of what you want to do, what you can do, together with what the Air Force can do. We are always looking for ways to improve the STINFO Program and chart the course of how we will be doing business in the future. We are looking for concrete, practical solutions to problems that can be effected throughout the Air Force.

Our speakers have had considerable experience with R&D as well as with the dissemination of scientific and technical information. They will present to you the current posture of information exchange, as well as with new concepts and ideas which we hope you will find stimulating and useful. In fact, we hope that you will use some of these approaches in conceptualizing and formulating your recommendations for making the STINFO Program a more viable, dynamic nerve pulse in the R&D efforts of the Air Force.

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With the talent present in this room, I sincerely expect that this conference will be an unqualified success, and that we will arrive at satisfactory recommendations to help improve the information exchange process and the management of the STINFO Program.

### **WELCOMING REMARKS**

### COL. JOHN HARGREAVES

Ladies and Gentlemen:

I am pleased to be with you for the opening of this conference. General Brien Ward, the Director of Laboratories, Hq AFSC, has asked that I pass on to you his best wishes for a successful and productive meeting.

A big share of the success of this Air Force STINFO meeting will come from the people who are on the program. To all of the speakers I say thank you for coming to this conference and giving us your point of view.

We are experiencing a tremendous expansion of scientific and technological effort in many aerospace directions. The result is a fantastic increase in the rate of accumulation of technical knowledge, and the need and search for even more knowledge. The problem of collecting and getting it to those who need it -- when they need it -- is of vital and increasing concern.

You, as STINFO Officers, are responsible for those aspects of information and data which are required to support our RDT&E processes. Our principal and overriding goal is to ensure that our scientists and engineers have speedy and effective access to technical data and information to carry out their professional missions. By effectively using existing technology, RDT&E costs are reduced, RDT&E cycle time is reduced, and R&D management is improved. So, you can see how vital your function is, and why we must do whatever we can to improve the system.

Other STINFO Program objectives that we must keep in mind are:

- 1. We must provide more education to the user as to the availability and access of scientific and technical information, and we must provide frequent re-education to update the user's knowledge of sources.
  - 2. We must improve access to scientific and technical information.
- 3. We must improve the input and output of scientific and technical information in the various repositories, document centers, and computer

data banks. We are all too familiar with the garbage-in/garbage-out syndrome, but we are also all plagued by this problem - some more, and some less.

- 4. We must promote greater and more effective technology utilization or sharing of recently developed technology with other sectors of the economy; in short, we must promote an effective technology transfer program.
- 5. We must improve management of information resources, making sure the information is widely disseminated and actually reaches potential users.
- 6. We must ensure maximum utilization of existing information resources again, getting the necessary information to the potential user so he does not have to re-invent the wheel.
- 7. We must use common services wherever possible, and eliminate unnecessary duplication; and
- 8. The last objective we must keep in mind is that we must improve the interface with related programs, such as technical intelligence, foreign disclosure, data management, and public information programs.

You, as STINFO Officers, must be knowledgeable information specialists - you must know all possible sources, and you must be industrious and persistent enough to keep trying. You are the key to the whole system; you are the mortar which holds the bricks of the information edifice in place, the cement that holds the whole thing together.

This conference provides an excellent opportunity to make progress in the STINFO Process. The agenda covers topics that will give each of you a new insight, and, I hope, will stimulate thinking toward new approaches and new ways to make the Air Force STINFO Program more effective.

I have seen improvements in the STINFO Program as a result of your last conference in 1980. I urge you to again actively participate in this conference so that we can forge agead in improving and innovating our STINFO Program.

I warmly welcome you, and wish you every success in this conference. Good luck.

1984: HERE WE COME!

ANDREW A. AINES

Good Morning, Ladies and Gentlemen:

It is kind of you to invite me to this conference to make a keynote speech. Returning to Wright-Patterson, perhaps for the last time, to deliver a few thoughts is both nostalgic and an opportunity. The hat that I am wearing today is that of the Chairman of the Federal Information Managers rather than Director of the Department of Energy's Scientific and Technical Information Program. This will permit me to talk from the mountaintop rather than a valley.

If you could see the top of this paper, you would find that I have chosen for my subject, "1984: Here We Come!" The date is symbolic; my reference really embraces the rest of the 1980s. What I would like to talk about is the future, but in relation to the 1960s and the 1970s. There is no doubt that the number 1984 has a significance to those people who enjoy thinking that governments are by their nature tyrannical, ready to take their liberty away by controlling the flow of information or other "chilling" actions characteristic of despotic, autocratic forms of government. To them 1984 is a code word, a frightening symbol. Since most of my thoughts deal with scientific and technical information, 1984 is just another year. In my forty years in the military and the civil service, I have never run into a government worker who harbored the desire to steal or inhibit the rights of citizens, except possibly second lieutenants and supply sergeants after they have been out on the town the night before. I am kidding, of course. So my talk will be a shared picture of what I expect will be happening or what I would like to see happen.

All in all, I would label the 1960s as the "golden years." The United States at that time was the undisputed technological leader of the world, the most powerful country the world had ever seen. The importance of science and technology was well understood and appreciated in government. The President's Science Adviser during that era had more visibility and power in the government as the Director of the Office of Science and Technology and the Chairman of the Federal Council for Science and

Technology. FCST was made up of the top research and development person in each agency. It had a number of committees, one of which was the Committee on Scientific and Technical Information, popularly known as COSATI. In its early days COSATI was chaired by an admiral and a general. It was then located at the Department of Defense. Don Hornig, the Science Adviser for President Johnson, thought that scientific and technical information was so important that the operation ought to move to the Executive Office of the President. That is what happened. The members of COSATI were the top STI persons in each agency. We also had a large number of observers from all over the government, legislative and regulatory, as well as the representatives from professional societies and the private sector. COSATI began to turn out policies, standards, and agreements, a few of which are still being used today. It had a group of standing subcommittees, most of which were very active during the 1960s. Representatives from many countries would come to visit OST because of their interest in establishing a COSATI counterpart in their countries. During that period, there were a number of key studies performed for COSATI dealing with national planning for scientific and technical information, abstracting and indexing, informal communications, data bases, and the like. We established policies for page charges, indexing and abstracting, and international STI interchange.

Each of the major agencies created elaborate programs. DOD had a very lively program, as did NASA, AEC, Interior, Commerce, HEW and others. The National Science Foundation had an elaborate program and operated not only under NSF legislation, but a separate act, Title IX of the Defense Higher Education Act. During its more active years, NSF helped the professional societies with millions of dollars to create computerized data bases. The Chemical Abstract Services of the American Chemical Society received millions of taxpayers' dollars to create the world's most advanced chemical information system including a chemical registry system that probably has four or five million entries by now. NSF also had a legislated Science Information Council made up of eminent scientists, engineers, and information experts. NSF also supported a large study by a group organized by the National Academy of Sciences and the National Academy of Engineering that turned out the well known SATCOM report with

about 100 recommendations for achieving more progress in the public and the private sectors. It was during this era that AEC, HEW, and NASA began to establish world scale data bases and networks. During this era, the fledgling commercial information industry was spawned. The trade association of that group, the Information Industry Association, came into being and has grown remarkably in the last few years.

In 1971, COSATI was transferred to NSF, where it lasted for a year or so, but when the Office of Science and Technology was terminated by the President because he did not like the kind of advice that scientists were giving the White House, COSATI was also abolished along with the other committees of the Federal Council for Science and Technology. The Director of NSF became the Science Advisor to the President, but COSATI was not in the plans. Other committees were formed under the counterpart of FCST, but the interest that was shown STI matters in the 1960s virtually disappeared.

In 1976, the new President returned science to its former status and appointed a Science Advisor. Congress, in the meantime, had enacted a new public law that called for an Office of Science and Technology Policy. For a period there was an ad hoc task force on scientific and technical information, but it only had a few meetings, made a study on the relationship of the public and the private information sectors. That was it. I should point out that the interest in scientific and technical information got most of its impetus from the actions of Senator Hubert Humphrey who ran some classic hearings on the subject. The House Science and Technology Committee played a role in encouraging the Executive Branch to maintain the program. Representatives Pucinski and Daddario held hearings on the subject. During this period, Representative Carl Elliott headed a Select Committee to explore the scientific and technical information programs of the Executive Branch. The Congressional Research Service has kept its eye on Federal STI programs from the beginning. Bob Chartrand, a senior member of the CRS staff, has written many reports on the subject. The General Accounting Office has a bookshelf of STI studies made in the last couple of decades. Its interest in STI has not waned over the years.

During the 1970s, the momentum created by FCST and COSATI began to disappear. The effects were seen in the Federal agencies as well. Highlevel focal points in the Federal agencies also disappeared, except in one or two of them. Those that remained in DOD, NASA, AEC and others found that their support from the agency science and technology leadership became eroded. As the role of the focal points diminished, the same thing happened in the component groups within agencies. DOD was not spared. Only when Dr. Ruth Davis became the Deputy Undersecretary for Research and Advanced Technology in OUSDR&E was there an effort to improve the dismal state of affairs in DOD. NSF dropped the science information program and confined its attention to information science. Even in this area, its funding was less than a third of its programs in the 1960s. All of the agencies, which in the past had R&D programs in the technical information area, got out of the business. The three military services, whose programs in this area were substantial and respected, lost their interest in the STI effort. Only the Navy continued with a respectable program that combined scientific and technical information and technology transfer. Unless I was misinformed that program has also disappeared.

The erosion of agency and Executive Office of the President interest in scientific and technical information matters was striking and a paradox. No matter how we try to rationalize this trend in the government, there is not the slightest doubt in my mind and in the minds of other observers that science and technology were still regarded as of the highest importance in the life of the country. Funding of government programs had its ups and downs in the last decade, but there is still commitment, even in this era of reductions and terminations of government programs. It has always been strange to me that scientists and engineers have shown little interest in the scientific and technical information systems that undergird science and technology. It is true that science and technology devoted to information and communication are on the crest of a tidal wave, but they do not seem to be overly concerned in most of the other scientific and technical information fields. For example, the National Academy of Sciences has been downright sluggish in its involvement in STI matters. The American Association for the Advancement of Science has a better track record. Panel T of its standing committees has been one of the lively

groups in that organization. The Executive Officer, Bill Carey, has shown some interest, but on the whole I think that AAAS has shaded towards the passive in this area. Some professional societies that are in the publishing business have modernized their programs. The American Chemical Society has worked diligently in computerizing its data bases, so have a few of the others in physics, engineering, and psychology to name a few. Only a few of the workers in each of the major scientific disciplines have been involved in the application of modern information processes; the bulk of the members of scientific and technical organizations has been indifferent. As long as the Federal agencies come up with page charge money and the U.S. Postal Service permits low mailing rates, the professional societies show little spark. Without pressure on the Executive Office of the President and Congress from the prestigious scientists and engineers of the United States, I seriously doubt that STI will get the interest that it did in the 1960s.

Some critics believe that the STI movement in the United States has come to a grinding stop because the agencies organized strong STI programs that are working fairly well. Ruth Davis, the former Deputy Undersecretary for Research and Advanced Technology in the Office of the Secretary of Defense, has made this observation. The Arther Little Corp. made a study of the STI estate in the government and has concluded that STI needs an infusion. They claimed that STI as a stand-alone field could not be sustained. They called for the establishment of an enlarged approach, a broader definition of scientific and technical information. Their report pointed out that there are three eras involved in the STI movement. The first of these centered on improvement of the scientific and engineering discipline information programs. The second era traced the growth of the mission-based information systems such as those established by DOD, NASA, Health, and other agencies and private groups. Of course, these developments were not sequential; a good deal of overlap is involved. A.D. Little saw the need for what they called, for the want of a better name, the societal information systems. STI, they pointed out, would be better served and serving, if we added the S to STI to make it STSI; scientific, technical and societal information. Societal would include information and data dealing with economics, societal, financial, political and other areas, depending on the needs of the decisionmakers, problem solvers, and

crises managers in various institutional settings. The key point made in the A.D. Little study was sound. STI programs did not serve top-level managers directly. With the explosion of data bases, networks, computers, and terminals, the need to provide information services to executives without the intervention of librarians and information specialists was growing. The A.D. Little researchers saw the need for the STI experts to pick up the ball and run in the STSI direction, but they could not find that this need was understood by the STI managers. Failure to accomplish this breakthrough might sound the death knell for the STI community. A new information community would fill the vacuum, they contended. The study was completed a few years ago, but the implementation of the AD Little recommendation has not been overly conspicuous.

While the government organizations have been sluggish in exploring new frontiers, the same cannot be said about the private sector. Information and data bank vendors, such as Lockheed and Systems Development Corporation, have been moving towards the provision of a wide and diverse group information services, available to users through electronic delivery systems. I hate to admit it, but we have not been able to establish a government-wide computerized Federal STI Network after all of these years, even though the technology and techniques have been available to us. It is hard to explain why this is so, but it is. For years, the Smithsonian Science Information Exchange has been gathering on-going research project data from the Federal agencies, but I think it demonstrable that the agencies have not used the Smithsonian Science Information Exchange in sharing and gathering project information. SSIE has just about been discontinued as of the end of last month. The National Technical Information Service has agreed to take on the SSIE chore until our community figures out what ought to be done in the future. There is no great alarm being expressed by any group that I can detect, especially the managers of the Federal R&D programs. In the 1960s a blue ribbon panel would have been created to study the problem and come up with recommendations. Perhaps such a group will be established by the Office of Science and Technology Policy (OSTP) in the White House. As Chairman of the Federal Information Managers, I have suggested that such a group be set up as quickly as possible. Correctly or incorrectly, I maintain the view that it is impossible for a country to create and

maintain an outstanding scientific and technological program without an efficient, advanced, and effective supporting scientific and technical information program. It seems tragic to me that this possibility has not been recognized by our science and technology leadership. I doubt that our own information community has thought hard and deep about this issue.

While I am on this subject, it is with sadness that I contend that the STI community has not matured sufficiently in the last couple of decades. Let me explain what I mean. A few years ago, Senator Ted Kennedy asked the Congressional Research Service to analyze what was or was not going on in the National Science Foundation and the Federal agencies in the STI area. Bob Chartrand of CRS did a beautiful job in preparing the report. Kennedy decided before he held hearings on the subject to ask the STI community for its comments and support. The silence deafening, Senator Kennedy, astute politician that he is, decided that he would not waste his precious time on a lackadaisical community. More recently, Representative George Brown of California, who is the most active STI champion in Congress, advanced a bill to establish an institute for STI R&D and policy. One title of the bill called for a strengthened OSTP effort in this area. The word was sent out to the STI community to throw their support behind Brown in his crusade to improve Federal and national STI programs. Again there is silence. If Representative Brown concludes that he is wasting his time trying to improve STI programs in and out of the government, I would not be surprised.

There is another problem that is surfacing in Washington. As previously mentioned, the Federal Information Managers have accepted the view that, legally and rationally, responsibility for Federal scientific and technical leadership resides in OSTP. With the passage of the Paperworks Reduction Act of 1980, the Office of Information and Regulatory Affairs in the Office of Management and Budget (OMB) believes that it has responsibility for all information management, including scientific and technical information. OMB has called on each agency to appoint a top level person to interact with the OMB "Information Czar," whoever this turns out to be. In most agencies, the top information person is the Assistant Secretary for Management and Administration or the Controller. The role of the agency R&D heads is unclear in this new shift of power.

If they are disinterested in their STI programs, it makes sense for the Assistant Secretaries of Administration and Management to do the job, but what some fear is that the special world of scientific and technical information will be handled the same as other information subsystems in agencies-personnel, funding, property and the like. When the Federal agencies got into the "big science" area during and after World War II, it was recognized that the directors of R&D had to pay attention to their information systems. Although the cause and effect relationship may be too complex to analyze, when the Federal R&D managers stopped paying attention to STI and probably other responsibilities, the productivity of science and technology began to diminish in the Federal government. To make progress in this area, obviously we are going to have to get better teamwork in agency leadership than exists today. My crystal ball is murky in predicting what will happen. Only time will be able to tell us what happened to solve or reconcile this issue.

There is another development that we are going to have to watch carefully. It is no news to you that the guidance that the agencies are getting from the Administration is that they are to become smaller and spend less of the taxpayers' money. It is the hope of the Administration that the private sector will come forward to pick up the programs that the Federal agencies will drop. The signals that we have received from the Office of Management and Budget reveal that information programs will not be protected, even those in the STI area. For the first time in my memory, it is possible that the information-gathering and -disseminating centers in the government, including the National Technical Information Service, will be vulnerable. Picture the programs of DOD, NASA, HHS, and DOE being operated by commercial interests. Conceivably, the Federal STI Centers will disappear completely and that commercial services will take over. Bear in mind that I am talking about possibilities only at this time, but it is mandatory for the Federal workers in this field to understand what is going on and take whatever steps they need to take to protect their programs. I hope that I am not exaggerating the size of this rain cloud.

Another reality that needs more attention deals with the management of STI programs and STI Centers. For several years, the Gereral Accounting Office has been studying various aspects of their operation. I have on good authority that the process will continue and possibly expand in the future. Bear in mind that GAO is developing experience in analysis of Federal information and data-processing operations. A few months back, the science side of GAO, i.e., the group that reviews agency R&D programs, made a document available which lays out what GAO will be looking at in the next few years. Four areas were cited, one of which was scientific and technical information. We should all be prepared for their studies in the future. Follow directives and regulations in the STI area, and do all you can to make sure that the Air Force regs are up-to-date and are being implemented.

Because of the great cost of STI programs in the Federal government, I believe that the managers of STI programs are going to be pushed into cost-benefit studies. This is not easy in the STI area as we are all aware, but we are going to have to learn how to make analyses that will show that we are trying to track the value of our information programs. I have suggested to people in my own agency that they keep diaries with anecdotal material that can be trotted out during program and budget reviews. Information center workers are going to have to work out some agreement with those they serve to feed such information to them. This will require more personal contact with the information users than is usually given. The notion that feeding numbers of transactions or holdings and the like is a good substitute is getting to be shop-worn. The size of budgets and staffs will be directly affected by the strong or weak case made to your people.

We will be paying more attention to the quality of the STI that we access from the outside and provide to users. One thing about modern information and data banks - only about 10 to 15% is really worth storing. It is my view that the best agency information managers will be those who work hard to gather only quality information. This is another tough nut to crack, but acquiring and disseminating quality information is the name of tomorrow's game. Being able to connect with a couple of hundred data bases is 0.K., but when your patrons are satisfied with the quality

of the STI you gather, the chances of survival and promotion are increased.

At this point, I would like to talk about the international scene. The high place that technical information holds in all countries of the world advanced and developing is striking. I believe that there is a higher value placed on good STI in other countries than in ours. They work much harder to gather knowledge they need than we do. In effect, they take advantage of R&D programs and results to compensate for the lack of indigenous R&D programs. It has been difficult to find out what the U.S. policy is regarding interchange of information with other countries, but I suspect that we will be "zero-ing in" on a more uniform policy than exists today. In the realm of theoretics, I have argued that the dynamics that will force the United States to establish policies and strategies in the STI area will result from several forces. The first of these is the new information technology which is flowing out of our laboratories. The second is the continuation of an explosion of information and data. The third is the growing costs of information gathering, storing, retrieving, and dissemination which will call for improved management at all levels. The fourth is the growing complexity of life today and the need of information systems that have been designed to provide the knowledge needed in all fields. The fifth is the trends and developments in the international field. Information is a choice commodity. Information is a source of power. I am inclined to the view that it will probably be the international trend that will determine what we do in the United States in the future, although the others are also very important. The Third World is calling for a new world economic order and a new global information order. We are all aware that the Third World votes as a bloc in U.N. and other international organizations. The United States is the leader in modern information programs, practices, and generation of STI. The pressure on the United States to do more for the developing countries will obviously continue.

At this point, I would like to hear what you have to say about what I said or what has not been said, but concerns you none the less.

# DTIC - CURRENT POLICY AND FUTURE TRENDS MRS. STERLING ATCHISON

To be supplied as an addendum at a later date.

### NTIS - CURRENT POLICY AND FUTURE TRENDS

### MR. KENYON ROSENBERG

Good morning. Although I am here to talk about the National Technical Information Service's policies and trends, I will begin with a brief background about NTIS - that is, how and why it got started, what it does and what its current products and services are. Following that I will discuss what I am scheduled to -- to wit: NTIS' policies and trends.

NTIS began immediately following World War II as a concept devised by Dr. Vannevar Bush who, on encountering the captured technological and scientific documents of the Axis powers, felt that when declassified they would be both of interest and value to American business and industry. His farsightedness can be discerned from the fact that among these materials were the Gernam methods for the production of synfuels (which documents are still in demand from us today). An ad hoc committee was formed and was called the Publications Board. Although subsequently discontinued, the existence of the Publications Board is still felt because those documents which NTIS receives and to which it assigns its own order control numbers reflect the Publications Board by using the letters "P.B." plus a numerical string. In 1946 the U.S. Department of Commerce established the Office of Technology Services to consolidate the activities of the Board and other related organizations. In 1950, the Department of Commerce was directed by a public law enacted in that year to set up and maintain a national clearinghouse for Scientific and Technical Information to be implemented through the Office of Technical Services. In 1964, the Federal Council for Science and Technology recommended the expansion of the Department's clearinghouse function and the Clearinghouse for Scientific and Technical Information was organized on the foundations of the Office of Technical Services.

In 1970, under newly enacted legislation, NTIS was established as a primary operating unit of the Department of Commerce. The Clearinghouse for Federal Scientific and Technical Information was abolished and its functions transferred to NTIS. NTIS was then given full authority to establish and monitor a clearinghouse of scientific, technical, engineering and business information and to assist operating information units in the

dissemination of that information. The policies of NTIS that now exist are policies which reflect the agency's mission: to collect research, development, and analytical scientific, technical, and engineering information which is funded by Federal, state, and local governments and to promote the use of this information by organizing it, for useful access, into a variety of products such as news bulletins, catalogs, exhibits, speeches, mail promotions, and public and private and mechanisms. Also NTIS makes arrangements with domestic and foreign dealers to sell its family of information products and services. The agency sells its products and services to private business individuals, Federal agencies, state, and local governments, and international customers.

NTIS sells subscriptions, technical reports, and other information products and services of specialized interest under provisions of Title 15, U.S. Code 1151-1157. This law directs NTIS to be self-supporting by recovering all of its costs from the sale of its products and services. All costs of the agency's products and services including salaries, rent, utilities, marketing, product promotion, and postage, and all the other usual costs of doing business, are paid from sales income, not by tax-supported Congressional appropriations.

Approximately 70% of the 80,000 documents which NTIS receives each year are supplied by the Departments of Defense and Energy and NASA. The remainder comes from a variety of government agencies and are representative of virtually all government activity in the areas of STINFO. NTIS currently has a warehouse which contains approximately 1.3 million publications, none of which is ever allowed to become out of print. In 1980, NTIS sold nearly 6 million copies to some 100,000 customers in the U.S. and abroad.

With these facts in mind, I would like to describe the range of NTIS products currently available and I shall begin with the one that is the most basic to the agency's mission: The Bibliographic Data Base.

The Bibliographic Data Base is comprised of digitally stored descriptions of some 900,000 publications which are among NTIS' collection. This represents approximately 70% of the total data base. For each of the documents represented in the data base, there is stored therein the title,

the personal author, the corporate author (that is, the agency or corporation under whose auspices the report was printed), the control numbers, an abstract, and the indexing terms appropriate to that publication. The Bibliographic Data Base is made available to the public in this country primarily through three vendors--Lockheed (through its Dialog system), SDC (through its Orbit system), and BRS (Bibliographic Research Service, Inc., through its Userline system). NTIS also sells the data base, plus updates, to a number of Federal agencies and corporations for their internal use.

In addition to its own data base, NTIS maintains for sale approximately 400 other data base products for sale to other government agencies. Among these are the data bases of the Bureau of Labor Statistics, the Smithsonian Science and Information Exchange, Selected Water Resources Abstracts, Statistical Data Research Service, the Patent Data Base (in three files: full text, bibliographic, and classification), Federal Communications Data Files, the National Library of Medicine Medline (for the current year plus two previous years), etc. Additionally, NTIS markets Federal software through the Federal Software Exchange program (the 1980 addition of the catalog for the Federal Software Exchange Program contains approximately 700 abstracts).

As I mentioned before, NTIS has a warehouse and archives 1.3 million documents. The most recent 30-50,000 such documents are maintained in both paper and microfiche copies. The other, older ones are maintained in microfiche copy only. Customers requesting copies of these documents, thus, may order them usually in either microfiche or paper. Immediately upon receipt, NTIS creates a microfiche copy of the document in order that another bibliographic product might be produced, Selected Research in Microfiche. Subscribers of SRIM may choose from 38 primary categories and 355 sub-categories in technology science, engineering and business. SRIM subscribers receive the full microfiche text of current reports in the areas of their interest every two weeks, and the cost per document of this service is only .85¢. For a small additional cost one can also receive a quarterly cumulative index, either in microfiche or paper, specific to their category and subcategory choices.

Another old standby product of NTIS is the Government Reports Announcements and Indexes (GRA&I) which is issued biweekly (26 issues a year) and which lists and indexes the vast majority of newly received publications. There is also a multi-volume hard-bound annual index of GRA&I which provides separate key word, personal author, corporate author, and contract, grant and order number indexes. In effect, GRA&I is the paper equivalent to the NTIS bibliographic data base. As incoming documents are received, they are coded in order to appear in one or more of 26 weekly abstract newsletters which cover such areas as communication, physics, medicine and biology, transportation, energy, agriculture, and food, etc. The weekly abstract newsletters can be subscribed to individually and provide ordering information for the documents listed therein.

Similar to a weekly newsletter, except that it is not a newsletter and does not appear weekly, is the bi-weekly specialists group together information from various documents that are conceptually related, synthesize them, and offer suggestions as to how the technology being reported might be construed. It is the thrust of the IFI to stimulate thinking on the part of managers and money-movers in order to enhance and stimulate innovation, creativity, and productivity.

At one time, NTIS provided its customers with searches of its data base on a customized demand basis. These searches, or bibliographies, are still provided occasionally but are rather costly since they are labor intensive for NTIS. In viewing this situation, NTIS created a new product, the Published Search Program. These are searches of the NTIS data base (and other data bases such as Engineering Index, International Aerospace Abstract and the Engineering Data Base, among others) which are much less expensive because more than one copy of each search is sold. The searches are devised to provide information in areas which are known to be of high interest and of some specificity. A few exemplary titles are: Powder Metallurgy of Titanium and Titanium Alloys, Fatigue Testing Machines, Transplantation Immunology, and Facsimile Communication. There are now over 4,000 published searches and each search sells for only \$30.

"Tech Notes" is a newly redesigned NTIS product and each Tech Note encapsulates a description both narrative and illustrative of a new piece of technology. There are 11 scientific and technical fields into which Tech Notes are cumulated and sold. Some of these fields are Materials, Ordnance, Life Sciences, and Computers. Tech Notes are sent out monthly to subscribers and the notes cover equipment, inventions and processes.

The most recent addition to the NTIS product arsenal is Technology Assessment and Forecast, a joint product of the Patent and Trademark Office and NTIS. The TAF consists, in large part, of a variety of reports, prepared by subject experts and includes such series as patent profiles (each of which profiles a specific area such as synfuels and solar energy), technology profiles (which are in numerous parts and delineate a variety of technologies) and organizational profiles. One last new product of which I will speak and which NTIS expects to have available early in 1982 is its corporate author authority file. This file will be initially available in paper and microfiche and later on magnetic tape. The file will consist of the over 30,000 standardized corporate author forms used by NTIS catalogers along with the other agency corporate author code numbers. It will be fully cross referenced and provide AACR 2 forms where possible. This should prove useful to catalogers and also to users of NTIS Products such as GRA&I and the Bibliographic Data file.

I will turn now from NTIS' ongoing product groups to what the trends and future planning of NTIS are. Two areas of some interest to NTIS users are NTIS - GPO cooperation and the acquisition of greater amounts of foreign higher technology. As to the first, NTIS and the GPO now have an arrangement whereby NTIS announces selected GPO produced documents and makes these available to NTIS customers. This is done in two ways.

If the document is a newly produced GPO sales item, it is announced as available from NTIS in microfiche and from GPO in paper copy. When the item is destocked by GPO, NTIS reannounces it as available in both paper and microfiche. Further if the item being announced is a destocked or non-sale GPO item, NTIS announces its available from NTIS in both paper and microfiche simultaneously. To aid NTIS customers additionally, all items

received from GPO will carry the notice "this document may have been distributed to GPO depository libraries."

Another area of cooperation between the two agencies is the use of deposit accounts. Effective January 1, 1982, NTIS deposit account holders will be able to order GPO documents and have them charged to their NTIS deposit accounts as long as the order is placed with NTIS. The same will be true for GPO deposit account holders who, if they place an order for an NTIS document, will be able to have the order charged against their GPO deposit account is the order is placed with GPO. It is hoped that these cooperative ventures will assist users of both agencies and facilitate their ordering processes.

With regard to foreign technology, NTIS has recently made, and is currently making, a concerted effort to acquire high technology information from such major industrialized nations as England, France, Japan, and West Germany and the Scandinavian countries. The fruits of these efforts are already visible in the NTIS abstracting and indexing media, and should provide this country with a considerable amount of advanced technology heretofore unavailable.

With regard to its internal long-range planning, NTIS intends, within the next 2-3 years, to involve itself in the use of such advanced storage media as optical-digital disc and bubble memory in order to be able to provide demand printing capabilities, thereby reducing turn around time to its customers while holding prices to an absolute minimum.

### INNOVATION IN STINFO

### DR. JOHN DEMIDOVICH

Dr. Demidovich, who is a professor at the Air Force Institute of Technology, presented the state-of-the-art advances in innovative communication techniques. He presented an excellent portrayal of the electronic classroom where teachers and students, though separated by great distances, can conduct classroom discussions using remote video and telephonic equipment. The ability of people to inspire creative discussions without the expense of travel or correspondence was significant.

His main theme was that we do not use our brains to capacity, that we limit ourselves to what has been programmed for us from childhood. We must be creative in our thinking, and start using the brain as it existed in our childhood - without preconceived notions.

Also, Dr. Demidovich presented the latest advancements in "think tank" philosophy. One of the more recently advancing techniques was the Crawford Slip Method, which was used in another part of this Conference to elicit thinking for a five-year STINFO plan for Headquarters AFSC and the Air Force. Professor Demidovich discussed many of these new techniques which he employs in his courses offered at the Air Force Institute of Technology.

### TWO DOZEN BOOKS ON CREATIVITY AND PROBLEM SOLVING

- Amsden, Davida M. and Amsden, Robert T.; QC Circles: Applications, Tools, and Theory; American Society For Quality Control, 161 West Wisconsin Ave, Milwaukee, Wisconsin, 1975
- 2. Baker, Sam; Your Key to Creative Thinking; New York City: Bantam, 1964
- 3. Biondi, A., ed.; <u>Have an Affair With Your Mind</u>; Great Neck N.Y.: Creative Synergetic Assoc., 1974
- 4. Biondi, Angelo M.; The Creative Process; Buffalo: D.O.K., 1972
- 5. Biondi, Angelo M., ed.; <u>The Journal of Creative Behavior</u>; Buffalo; The Creative Education Foundation, 1979
- 6. Biondi, Angelo M. and Sidney J. Parnes; <u>Assessing Creative Growth:</u>
  The Tests Book One; Buffalo: D.O.K., 1976
- 7. DeBono, E.; Lateral Thinking; New York: Harper and Row, 1972
- 8. Doyle, Michael and Straus, David; How To Make Meetings Work; Playboy Press; Chicago, Illinois, 1977
- Gordon, Thomas; <u>Leader Effectiveness Training (L.E.T.)</u>; Wyden Books, New York, 1977
- Guilford, J.; <u>Intelligence</u>, <u>Creativity</u>, and <u>Their Educational</u> <u>Implications</u>; San Diego: Knapp, 1968
- 11. Koestler, A.; The Act of Creation; New York: Macmillan, 1969
- Osborn, Alex F.; <u>Applied Imagination: The Principles & Procedures of Creative Problem-Solving</u>; Scribners & Son; New York, 1963.
   14th Printing, 3rd Revised Edition
- 13. Parnes, S. J.; AHA! Insights Into Creative Behavior; Buffalo: D.O.K., 1975
- 14. Parnes, S. J.; Creativity: Unlocking Human Potential; Buffalo: D.O.K.
- 15. Parnes, S. and Harding, H., eds.; <u>A Source Book for Creative Thinking</u>; New York: Scribners, 1962
- 16. Parnes, Sidney J.; Noller, R. B.; and Biondi, A.M.; <u>Creative Action Book</u>; Scribners & Sons; New York, 1976
- 17. Parnes, Sidney J.; Noller, R. B.; and Biondi, A.M.; <u>Guide to Creative</u> Action; Scribners & Sons; New York, 1977

- 18. Parnes, S. J. and Noller, Ruth B.; <u>Toward Supersanity: Channeled Freedom</u>; Buffalo: D.O.K., 1973
- Prince, G.; <u>The Practice of Creativity</u>; New York: Harper and Row, 1970
- 20. Raudsepp, Eugene:

How to Present and Sell Your Ideas

How Creative Are You?

Characteristics of the Creative Individual

Motivating and Managing Creative Individuals

Conformity vs Innovation

Why Be Creative?

Creative Growth Games

Princeton, N.J.; Princeton Creative Research, Inc., 1978

- 21. Taylor, Calvin; Climate For Creativity; New York; Pergamon, 1972
- 22. Taylor, I., and Getzels, J., eds.; Perspectives in Creativity; Chicago: Aldine Pub. Co., 1975
- 23. Torrance, E. Paul; <u>Creative Learning and Teaching</u>; New York: Dodd, 1970
- 24. Hardy, Edgar; OOPS! I Never Thought of That. Creativity Is Nothing
  But Common Sense; E. K. Enterprises, Dayton, OH., 1977

### STATE-OF-THE-ART STINFO PROGRAM

### MR. WALTER BLADOS

A year has gone by since we were last together, and many events have happened that touch upon the STINFO Program.

I would like to briefly review the highlights of the past year to see what we have done, what the current problems are, and what we have to do in the future.

One of the highlights of the past year was the DOD Technical Information Conference for R&D managers in March 1981. Approximately 90 scientists, engineers, and technical managers from government and industry participated in the conference and workshop sessions at the national defense university. The primary objective of the conference was to bring together a large cross section of DOD in-house and contractor scientists, engineers, and technical managers to assist in the planning of the defense scientific and technical information program. A secondary objective was to develop recommendations for program improvement, effort and direction in broad areas that define major scientific and technical information issues. These issue areas were:

- (1) Technical information program management;
- (2) Technical document production and access;
- (3) Computerized information systems and data bases; and
- (4) Information transfer services and applications.

### The principal recommendations were:

- (1) An OSD level technical information focal point should be designated;
  - (2) A technical information advisory council should be appointed;
  - (3) A DOD technical information program plan should be developed;
- and (4) The Defense Technical Information Center should be designated as a major program element.

Other recommendations were made. I have a list of these recommendations in a priority order. Please feel free to take a copy. If you desire to obtain a hard copy of the proceedings of the conference, you can order it from DTIC under ADA 100-600.



As a result of the conference, the Under Secretary of Defense established a Work Unit Information Summary (DD 1498) task group to review, revise and refine the WUIS, and to recommend mechanisms to improve its operation and effectiveness. Also, a WUIS task group study team was established to identify general redesign and enchancement requirements.

The study team introduced a survey to be used to identify improvement requirements. Areas of concern included applicability and usefulness, deficiencies, and changes or improvements which should be made to the WUIS.

The Air Force distributed about 1600 of these questionnaires - and I am sure many of you have seen them and answered them. We asked that responses reflect a cross-section of technical disciplines and various levels of program management and performance, and asked that respondents should include program managers at all levels, bench-level scientists and engineers, and technical information support personnel.

The surveys have been coming, but we have not had time to analyze the responses. But I can tell you that responses range from the very highest praise for WUIS down to "What is a WUIS?"

Also, as a result of the DOD conference, DOD has suggested eliminating duplication by replacing defense R&D planning summaries (DD Forms 1634) with the congressional RDT&E descriptive summaries and the five-year defense plan. The DD Forms 1634 are used to describe R&D projects designed to build the technology base. The forms are furnished to DTIC for incorporation into the R&D planning data base which is available to industry to assist them in their planning. The Air Force position is that we concur in eliminating duplication, but do have some concern which should be resolved prior to implementation. We are especially concerned about the quality of the information unless there is adequate planning. We suggested a working level meeting be held to review the proposal in detail prior to implementation.

Thanks to many of you, the first half of the STINFO Officers Handbook has been published and disseminated. I thank those of you who provided inputs for the handbook. We hope to get a few more chapters out to you

in the next two to four months. If there are any of you who have not received a copy or who would like to see a copy, I have a couple here that you can look at.

STINFO Training: We have approached AFIT about STINFO training, and learned that the STINFO training previously offered at AFIT was dropped in the early 1970s, due to a lack of participants. Dr. Demidovich suggested that we all participate in determining the curricula for a new course, and we will spend some time on this on Thursday morning. We want everyone's input on this.

STINFO Grade/PD Structure: I have just initiated dialogue with the civilian personnel experts. I have to present them with an overall picture of the STINFO Personnel including grades, job series, and amount of time spent on STINFO. Hopefully, I will have this done in a couple of months, and maybe we can make some progress in this area.

Indirectly as a result of the DOD conference, a DTIC/AFWAL demonstration project was initiated to speed up the dissemination of technical reports and to save a goodly amount of money paid out for printing. Jim Johnson will tell us all about this in a short while.

STINFO Flyer: As a means of publicizing the STINFO function, we have printed several thousand of these flyers. We feel that if you can get them to all your engineers, scientists, managers, and other users of STINFO, they will look at it and give STINFO a try.

We kept the verbage to a minimum so that any individual in one glance can see what is being publicized. We left the back of the flyer blank so you can stamp your name and telephone number. These flyers are here. If you would like to take some back with you, help yourself. If you would rather that we send them to you, let us know. We will do all we can to accommodate you.

We have made strides in technology transfer and GIDEP. Progress made in these two areas will be addressed on Wednesday and Thursday.

Now to the negative aspects of the year. I think the most blatant neglect is that we have not revised AFR 80-40. This is my top priority, but there are some loose ends that I want to resolve before I start the

revision. I will also want your inputs and comments before the final reg is released. So I will be sending you all a draft copy and I would appreciate your inputs, comments, and suggestions.

Along this same vein, I would like to comment on our STINFO Officer network of communications. I think we have the basis of a good communication system - let's use it more freely. At times, when I do send information out, or when I ask for information, there is no reaction from the STINFOs. I wonder whether you are getting the word. I urge you to talk to me and to one another more freely and more frequently.

Another problem we are facing, and which is causing concern, is the decline of technical reports received by DTIC. This reduction of TRs started in 1967, and during the past 4 years has reached an alarming rate. This lack of documented results of current RDT&E efforts means that resources and manpower are going to be used to duplicate research already performed. To counteract this trend, we must educate and impress every individual concerned with R&D that results and conclusions must be documented and forwarded to DTIC - that others may have a need-to-know what has been done.

Several other items that must be examined and resolved in the near future include an operations security inspection of Tech Reports.

Ms. Genelle Brauner will address this aspect tomorrow. We also have to look to find how we can create more interaction between the STINFOS and the Air Force Information for Industry Office. Technology transfer will also be looked at more closely, and guidelines for the use of technological resources for tech transfer efforts must be provided.

Improving the performance of the STINFO Program is a tremendous task. It needs a continuing effort as well as continuing emphasis. Keep in mind that information conserves other resources through better decisions. Information is actually related to management responsibility and measurements. Each organization has defined objectives and goals, and each organization has assigned the needed resources. Moreover, effective use of information at decision points ensures the most productive and efficient use of those resources.

The sad truth is that management rarely views information flow as a significant problem in the R&D process. They have many more important and pressing hurdles to worry about such as acquiring and keeping good people, procuring modern equipment, budget constraints and dislocations that occur from changes, project controls, grade-level controls, and the never-ending progress reporting; rarely do you hear about problems with information systems. The first step then is to understand the organization in which we are working.

Then, we as STINFO people should concentrate on assisting management in overcoming these problems by providing the necessary information when it is needed, where it is needed, and getting it to those who need it.

We must know how information is used. Many information systems people make assumptions about that without realizing how many different ways information gets used. Information creates an idea. Information permits the selection between choices, and provides alternatives. In many ways, information creates and forms a question, in addition to providing the solution. Many of the problems in R&D is knowing the question.

You do not get information by piling up documents, tapes, and whatever else on a desk and assume that, somehow, because it has been put there that the information is used. A document is not information, a tape is not information, a fiche is not information; but they do contain information. Information is transferred only when it reaches and is absorbed in a human mind. So, all our work is of no avail until we implant in the user's mind the specialized information that he or she needs.

A STINFO Officer will prove his worth in assisting the scientist and engineer by developing techniques to cope with the flood of information, thus relieving them of the chore of performing an independent, time-consuming search of the literature. The STINFO Officer must have a firm basis in science and engineering in order to filter and synthesize specialized scientific and technical information. And the STINFO Officer must develop the capability of searching out rapidly the new and significant knowledge of importance to the group he or she supports.

We must increase the effectiveness of the STINFO Program in the Air Force. We must expand S&T information flow between those persons and organizations who generate the knowledge and those who use it. Efficient broad interchange of pertinent, timely, and precise technical information is necessary for the advancement of Air Force technology; also necessary is that we show that the benefits from adequate information interchange will many fold offset the costs.

We must work on to ensure that the outputs of the S&T information activities are tailored to the needs of the user. Ideally, the user should receive only what he needs (pertinent), at the right time (timely), in the proper depth (precise), and with the minimum of effort (easy access). Let me repeat - the information must be pertinent, timely, precise, and easily accessible.

There is a need to determine the requirements of specific users or classes of users since many different persons and organizations are users of S&T information. Maybe we should start with a general approach to define user requirements by classifying the users as having a "vital" need and supplying them with fully detailed documents, and those having a "casual" need and supplying them with only abstracts of basic information documents.

We must place stress on the quality of information input. The author and his or her organization must objectively judge the values in the work reported, and discard the non-essentials. Contributions must be prepared using good English and standardized technical language. Effective retrieval will require informative titles, cogent abstracts, and alignment of the titles, abstracts, and text of reports with standardized key words. Authors should investigate previous literature pertinent to the subject to avoid needless repetition. Unfruitful work must be reported to assist others in avoiding the same deadend.

There are three immediate hazards to our STINFO Program:

(1) STINFO services will not be used if the channels of communication are cumbersome. As one speaker put it "it would be better to have a quick 'no' than a much delayed answer with the time lost in waiting and tracing."

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- (2) Inadequate education of STINFO users in the appropriate information retrieval procedures will return the users to their own devices.
- (3) Supplying users with extraneous or low quality STINFO will force the user to duplicate STINFO channels.

In summary: STINFO is an inseparable part of research and development. Scientists, engineers, administrators, laboratory directors, and program managers all have an obligation to make information processes better and more effective. But engineers and scientists have the responsibility of putting information into the system as well as drawing on it for their work. Engineers and scientists are uniquely qualified to judge the information and to see that useful data are made available. Thus, management of STINFO depends on contributions and help from all levels of RDT&E.

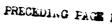
As Colonel Hargreaves mentioned earlier this morning, you, the STINFO Officers, are the key to the whole system.

So, our task is monumental but not insurmountable. We have made progress and will continue to make progress.

Thank You.

## DTIC/AFWAL DEMONSTRATION PROJECT PRESENTED BY MR. KEN ZIMMERMAN

This paper presented a look at the on-going experiment which provides the camera-ready copy to the DTIC for printing and making primary distribution. This experiment will provide valuable data to determine if the local printing and mailing costs of our reports can be done more efficiently by DTIC. At present the test phase is just getting under way at AFWAL and no substantial results were available. If the experiment is proven feasible, it could result in a savings of approximately \$500,000 per year at AFWAL. The program will be continually evaluated during the test phase and adjustments to streamline and reduce waste in terms of direct and indirect costs will be implemented as they occur. In conclusion, the impact of the resulting change in printing and distributing our reports was presented from a projected viewpoint.



## AIR FORCE INFORMATION FOR INDUSTRY OFFICE/ POTENTIAL CONTRACTOR PROGRAM MS. JO HANNA KINLEY

To be supplied as an addendum at a later date.



## OPSEC BRIEFING

## MS. GENELLE BRAUNER

Before we discuss what operations security is, we need to first define what a military operation is. In addition to its usual meaning, that is flight operations (EX 4950TW ARIA) or combat operations (EX Israeli recent flights), an operation is any military activity, function, project, program, or event which requires that information pertaining thereto be safeguarded to avoid possible exploitation by persons, organizations, or countries without a need to know.

With that inclusive definition in mind, let's now define operations security. OPSEC is a program developed in order to protect all information resulting from any military activity. It is a part of the overall security program; however, the established security programs, that is communications security, port security, physical security, document security, industrial security, involve classified. Operations security closes the security loop on disclosure/availability of unclassified information. So the purpose of the OPSEC program is to identify and eliminate possible sources from which people without a need to know especially representatives of unfriendly nations - may obtain knowledge of military activities. It focuses attention on information, actions, practices, or events which separately may not be either classified or considered very important, yet, when put together can reveal the overall picture of a particular program.

The program was originated by the joint chiefs of staff in the late 60's primarily for use during the Southeast Asia conflict and the success experienced there led to establishment of a permanent OPSEC function within DOD and is now applicable to all services.

The mission of AFSC is: To advance aerospace science and technology, apply that technology to systems development, and then to acquire superior systems. Because of this mission, a vast amount of unclassified information is generated. In fact for most programs more unclassified information is authored than classified. It is vital that information be screened for OPSEC consideration to determine if it contains intelligence

indicators - or bits and pieces of information which could, if collated, provide meaningful specifics on a related activity, a reasonably accurate composite of the related activity, or, with the compilation an inadvertent disclosure of classified information. Intelligence collection -- the world of espionage and counterespionage, spies and spy catchers -- is a popular subject of fiction. It has been the topic of countless books, short stories, TV serials, and movies. The role of the spy, the "secret agent," has become so sensationalized and exaggerated that it is very easy to think that spies exist only in the minds of fiction writers, that spying belongs in the same category as science fiction and westerns. Do not believe it. Spies do exist, and literally thousands of spies, or intelligence officers, as they are officially known, and their agents are at this moment plying their treacherous trade within the United States. The principal source of these intelligence officers is the Soviet Union, but the USSR's allied nations in Eastern Europe, as well as Cuba, the People's Republic of China, and smaller Asian Communist nations such as North Korea and Vietnam, also dispatch spies to our shores. Their main objective is the wholesale collection of data. The most prized type of intelligence data is the classified government document, but unclassified material -- even material which appears to be trivial -- can also be of inestimable value.

It cannot be overemphasized that unclassified material may be just as valuable to a foreign intelligence service as classified material. In formulating their estimations of U.S. strengths and weaknesses, and in the quest for data that will enhance their own nation's strength, foreign intelligence services seek all types of material. A small bit of information could represent a very important piece in a much larger puzzle. Therefore, ail data should be protected from the probing hands of foreign agents. A stolen industrial process can save thousands of dollars in research and development cost. The most trivial document could be the missing link of a hostile nation's problem.

To accomplish the AFSC mission requires time, money, and personnel. To protect not only this basic investment but the end products of our investment requires the individual effort of every employee of AFSC. Everyone has access to unclassified information of some kind; therefore,

everyone must apply OPSEC to his/her own core of knowledge/information/ activities. Most people think their own operation could not possibly have any type of military activity an unfriendly would want to know about. This is especially true if the organization has no classified material. But remember, the information about what you are doing could be the last bit of information needed by an unfriendly to get the overall picture of an important program.

If for no other reason, OPSEC is an important program because it is your tax dollars that pays for the research and development of technology, your tax dollars that helps apply to systems development and your tax dollars that helps to acquire systems. Why give it free gratis to someone who could one day use it against us?

To synopsize, OPSEC is a program to close the loop on the availability of all information on any military program.

Examples of unclassified information to which OPSEC is applicable:

Data on fly-by-wire Composites design data Gatorizing technology Algorithms

Test schedule information

Program objectives w/specific values

Program progress information giving capabilities or technical development

Details of experimental devices

Specific nicknames or project numbers

Operational limitations

Weapon systems capabilities and accuracies

INFORMATION ACQUISITION AND RETRIEVAL

MS. MARY KENNEDY



## INFORMATION ACQUISITION AND RETRIEVAL RELEVANT TO

DIRECTORATE OF AEROSPACE STUDIES

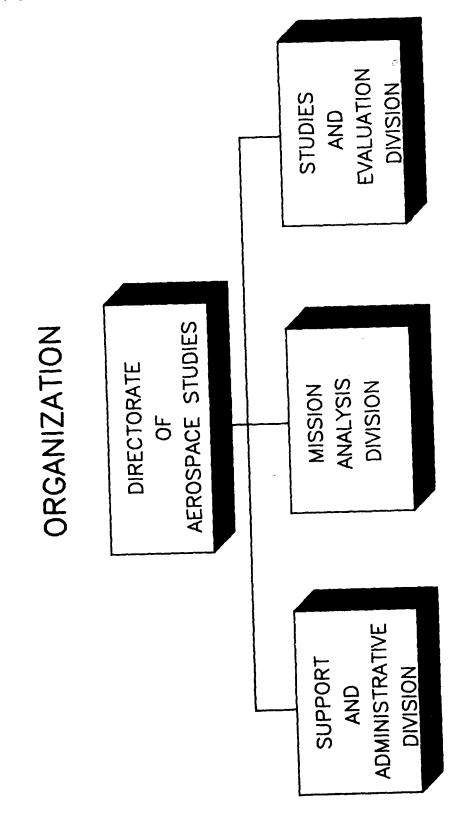
DCS/PLANS AND PROGRAMS, HQ AFSC

KIRTLAND AFB, NEW MEXICO 87117

MS MARY KENNEDY

## **OUTLINE**

- \* ORGANIZATION
- \* IDENTIFYING NEEDS
- \* DATA BASES AND MATERIALS
- \* DAS RETRIEVAL PROGRAM
- \* DOCUMENTATION CENTER FUNCTIONS
- \* STINFO



## IDENTIFY INFORMATION NEEDS

- \* SIT IN ON CONCEPTUAL STUDY PHASE
- \* ATTEND PLANNING MEETINGS
- \* PARTICIPATE IN MONTHLY TECHNICAL REVIEWS
- \* DESIGN TECHNICAL INFORMATION SEARCH STRATEGY

## RECENT STUDIES

- \* WIDE AREA ANTIARMOR MUNITIONS STUDY
- \* SPACE BASED LASER STUDY
- \* ANTIARMOR SURVEY
- \* AIR BASE DAMAGE
- VANGUARD
- \* ADVANCED MILITARY SPACEFLIGHT CAPABILITY
- \* INNOVATIVE ICBM DEFENSE STUDY

## DEFENSE TECHNICAL INFORMATION CENTER (DTIC) FOUR DATA BANKS

\* TECHNICAL REPORTS

\* WORK UNIT

\* R&D PROGRAM PLANNING

\* INDEPENDENT RESEARCH AND DEVELOPMENT

## OTHER DATA BASES

- \* LOCKHEED (DIALOG)
- \* SDC (ORBIT)
- \* INTELLIGENCE (CIRC)
- \* DEFENSE LOGISTICS STUDIES INFORMATION EXCHANGE (DLSIE)

## ACQUIRING INFORMATION

- \* INTERLIBRARY LOAN
- \* RAND CORPORATION
- \* ARMY-NAVY-DOD
- \* DEFENSE MAPPING AGENCY
- \* PERSONAL CONTACT

## MATERIALS ACQUIRED

- \* FORMAL REPORTS
- \* BOOKS
- \* MICROFICHE
- \* MAPS
- \* JOURNALS/ARTICLES
- \* DRAFT REPORTS
- \* PLANNING DOCUMENTS
- \* TECHNICAL NOTES

## D A S RETRIEVAL PROGRAM

- \* FLEXIBLE
- \* CUSTOM OUTPUTS
- \* YEARS USED 6
- \* EQUIPMENT CDC 3167
- \* PRODUCES HARD COPY AND MICROFICHE

## ROUTINELY PRODUCE EIGHT PRINTOUTS

\* CORPORATE AUTHOR

\* PERSONAL AUTHOR

\* TITLE

\* REPORT NUMBER

\* REQUESTOR

\* STUDY

\* KEY WORDS

\* ACCESSION AND LOAN NUMBER

## DOCUMENTATION CENTER FUNCTIONS

- \* CENTRAL CONTROL POINT
- \* CATALOG IN DEPTH
- \* MANAGE TOP SECRET, NATO, SECURITY MARKINGS AND DOWNGRADING
- \* ARCHIVES (CORPORATE MEMORY)
- \* PRODUCE COMPUTER LISTINGS OF HOLDINGS
- \* PREPARE CUSTOM BIBLIOGRAPHIES
- \* RETRIEVE AND LOCATE MATERIAL
- \* ENSURE PUBLICATION OF DAS REPORTS

# DOCUMENTATION CENTER FUNCTIONS (Cont'd)

\* ORDER DOCUMENTS

\* INTERACT WITH OTHER ORGANIZATIONS

\* LIAISON POINT WITH INTELLIGENCE OFFICE

# SCIENTIFIC AND TECHNICAL INFORMATION OFFICER

\* CONGRESSIONAL RELEASE

FOREIGN RELEASE

PUBLIC RELEASE

\* CONTRACTOR RELEASE

\* FREEDOM OF INFORMATION

\* WORK UNIT MONITOR

\* PREPARE PUBLICATION DISTRIBUTION LISTS



## TECHNOLOGY TRANSFER

## MR. WALTER BLADOS

PL 96-480 (The Stevenson-Wydler Technology Innovation Act of 1980) was signed into law on 21 October 1980. PL 96-480 requires that technology developed through federal research and development efforts be transferred to state and local governments and private industry.

Technology transfer, as indicated in the committee report, is interpreted by Congress to mean the <u>active</u> involvement in the transformation of processes and products within the labs so they can be used by private industry and state and local governments.

Simply being able to cite that something developed by a lab has found its way into public use does not satisfy the requirements of this act. Likewise, simply providing library services which compile reports does not satisfy the action-oriented intent of the act to state and local governments and private industry.

Beginning in FY 82, Federal agencies were required to devote one-half of one percent of their R&D budgets to support technology transfer to state and local governments and private industry. Also, each federal laboratory must establish an office of research and technology applications (ORTA); those labs with annual budgets of over \$20 million must provide at least one full-time professional to staff ORTA.

Either of these requirements may be waived by the agency head (DOD) upon formal request to Congress, in which case an alternative plan for carrying out the technology transfer function must be submitted.

Because the act requires <u>all</u> federal labs to perform specific technology transfer functions, Congress allowed some <u>flexibility</u> in how these functions would be supported by each agency. It is clearly the preference of Congress that a minimum of .5% of the R&D budget of each agency be used to support the functions of the offices of research and technology applications. Likewise, Congress prefers that each lab having a total annual budget exceeding \$20 million should provide at least one full-time staff person for the office. In order to maintain flexibility an agency head may choose to support the functions of offices

in another way. If the agency head "waives" the preferred approach, the law mandates that an alternate plan for carrying out the technology transfer functions required by the act must be submitted to Congress.

## NOTHING IN THE WAIVER PROVISION RELIEVES THE AGENCY FROM THE REQUIREMENT TO PERFORM THESE TECHNOLOGY TRANSFER FUNCTIONS.

To give you more insight into the Stevenson-Wydler Act, I would like you to watch a video presentation of Senator Jack Schmitt, Congressman George Brown, and Congressman Wes Watkins and their discussion of the whys and wherefores of PL 96-480.

## -VIDEO PRESENTATION -

In July of this year, Congressman Doug Walgren, Chairman of the Subcommittee on Science, Research and Technology, held over-sight hearings on what the federal agencies were doing to fulfill the requirements of PL 96-480. The following presentation was delivered to the Federal Laboratory Consortium on the 4th of November, and contains the bulk of the testimony given by DOD and the Air Force at the oversight hearings.

## - PRESENTATION OF FLC BRIEF -

Where do we go from here? I realize that technology transfer, under PL 96-480, is aimed at the laboratories, but I do feel that all of us can be and should be involved to some extent. You, as STINFO Officers, have a good grasp on the technologies that are developed at your activities, including new innovations. When you see an innovative technology that is suitable for transfer to private industry, or to state and local governments, bring it to the attention of your upper management, together with a recommendation that an active tech transfer effort be made.

I would like you to take a look at the three handouts. The first is a guide for developing a research and technology transfer, the second is a definitive research and technology transfer plan, and the third is a mark-up of a model effort. This plan has not yet been blessed, but I am putting in a great deal of effort to get it approved and sent out as policy.

The Department of Defense and the Air Force view technology transfer more broadly than do other federal agencies. There is the vital three-cornered partnership among universities, the AF in-house laboratories, and industry that provides the weapons technology for our military forces. For many years the laboratories of the Air Force have been cooperating with local and state governments to transfer military technology to aid in the solution of problems in the civil sector. A great deal of military technology finds its way into the compective civilian economy through the normal processes of our free enterprise system because more than 75% of our military science and technology is performed by private industrial corporations.

At the same time we must keep in mind why we spend about one and a half billion dollars a year in the Air Force developing military technology. The Soviets outnumber us in almost every category of modern military equipment. If we were to attempt to match them in each category, not only would we have to greatly increase our defense budget, but we would also have to greatly increase our standing military forces. Instead, we have elected to use technical superiority to offset the numerical superiority of the Soviets. This means we must not only generate technology at a rapid rate, we must also have prudent procedures to safeguard technology which is critical to our national defense posture.

As I discuss this topic, I ask that you keep in mind the twin responsibilities that the Air Force has in technology transfer; to stimulate application and to protect sensitive knowledge.

PL 96-480 promotes technological innovation in the United States, but strict compliance with its provisions for diversion of budgeted funds can be waived by the agency head. Such a waiver has been exercised by the Secretary of Defense.

In explaining his reasons for waiving the specific technology staffing and funding requirements of the Stevenson-Wydler Act, the Secretary of Defense took account of technology transfer activities already promoted by the department along with estimates of the manpower and fiscal resources that are devoted to them.

There were four points considered by the Secretary:

- (1) The current activity of the DOD in technology transfer substantially achieves the objectives of the act without formally meeting the budgetary and staffing requirements as expressed in the language of the act.
- (2) R&D activities within the RDT&E budget involve substantial classified and national defense-oriented efforts that are inappropriate for transfer to the civil sector.
- (3) DOD technology transfer activities are not, and cannot be, uniformly and effectively distributed throughout the DOD laboratory system. Consequently, the assignment of one professional at each of 57 DOD laboratories would be impractical. (It should be noted that current DOD technology transfer activities involve approximately 700 professional staff years of effort.)
- (4) Keeping the requirements of Section 11 of the act could prove to be a serious management burden on the Department of Defense, and could also interfere with the R&D process in our primary mission of national defense.

In granting the waiver the secretary noted that his action was also consistent with the goal of reducing the federal bureaucracy. In a letter to the President of the Senate and the Speaker of the House of Representatives, Deputy Secretary Carlucci reaffirmed that the Department of Defense agrees that it should be part of the mission of DOD laboratories to identify and aid in applying technology of potential value to the civilian sector.

4

Subsequently, the Under Secretary of Defense for Research and Engineering has formally conveyed the requirements of the Stevenson-Wydler Act to the services. He has asked each service to establish a mechanism to comply with the law. In doing so, he recognizes the continuing responsibility of the Federal Government in general, and the Department of Defense in particular, to ensure the maximum transfer of the results of our research investment to the public and private sectors of

this country. Such transfer, taken within the proper framework of national security consideration, should assist in our overall goals of national modernization and increased productivity.

Let me briefly touch on the philosophy and structure of the Air Force Science and Technology Program. Because industry, and not our labs, builds the hardware we fly, we transfer technology largely through the work of our contractors. Dollarwise, 76% of our funds are invested on contract. A breakdown of the approximately 5,600 active laboratory contracts shows 2,700 are with industry, 675 are with educational institutions, 160 are with non-profit foundations, and 50 are with federal agencies. Of the 2,700 industry contracts, 1,735 are with large businesses, 338 with small businesses, and the balance are not specifically classified. These contracts touch all corners of the United States and literally become the grease with which we lubricate the technology transfer mechanism.

To assure that new technology spreads beyond the matrix of contractors just described, we establish the Air Force Scientific and Technical Information Program, better known as the STINFO Program. Its dual purpose is to ensure that:

- 1. Scientific and technical information makes the maximum impact on the advancement and development of Air Force technology.
- 2. That the scientific and technical information generated under Air Force R&D Programs makes maximum contribution to the national economy.

To fulfill its mission objectives, the STINFO Program operates in conjunction with the Data Management Program, the Public Information Program, the Technical Intelligence Program, and the Foreign Disclosure Program. STINFO Offices have been established at Air Force Systems Command subordinate headquarters, divisions, centers, laboratories, and at other major commands such as Air Force Logistics Command, Air University, Tactical Air Command, Strategic Air Command, Military Airlift Command, and the Air Force Institute of Technology. We intend to fuse the Office of Research and Technology Applications (ORTA) function within this existing structure, and we will attempt to do this with no increase in manpower.

We will also continue to engage actively in technology transfer through the many avenues already open. For example, the laboratories are active participants in the Federal Laboratory Consortium, Defense Technical Information Center, and the National Technical Information Service. We have long had a computerized management and scientific information system that automatically feeds these institutions with up-to-date status on both in-house and contracted laboratory work.

We input data to the Defense Logistics Agency's Information Analysis Centers which provide specific, tailored advice to customer inquiries. The results of Air Force research and engineering reach audiences through various other means. The Abstract of New Technology (ANT) is used in the Air Force to document new technology and ensure it is made available to the public domain. An ANT usually consists of a one or two page summary describing new technology developed in Air Force laboratories and by Air Force contractors. Each ANT is forwarded to the National Technical Information Service and is incorporated into NTIS Tech Notes, a publication published and distributed by NTIS. As its contribution to NTIS Tech Notes, the Air Force produces about 200 abstracts each year.

NTIS Tech Notes are available to anyone by subscription. Subscribers may order notes covering new technology in any or all of eleven different subject categories: computers, electro-technology, energy, engineering. life sciences, physical sciences, machinery, materials, manufacturing, ordnance, and testing and instrumentation.

The small business administration is a principal user of the NTIS

Tech Notes to bring new technological developments to the attention of
the small business community. The notes will be made available to

Technical Assistance Officers in all SBA regional offices and all Air Force
Information for Industry Offices.

Another vehicle used to transfer technology is the patent abstract digest, which is designed to provide information on patented inventions developed by Air Force Research and Development programs. The digest pulls together one page summaries of new technology protected by issued U.S. patents. The major purpose for publishing the patent abstracts is

to share the technology with other agencies, contractors, and members of the public. Aerospace spinoffs rarely occur automatically. They are an outgrowth of dynamic interactions of people...from space scientists and inventors to the ultimate users in industry. The patent abstracts are intended to provide a viable line between the producers of technology and its potential users, in effect "catalyzing" the transfer process.

Industry also has access to Air Force Technical Reports (TRs) which are the documented results of DOD-sponsored research and engineering projects, including in-house efforts as well as work performed by contractors, subcontractors, and grantees. Technical reports may consist of final reports, test evaluation reports, any data believed to be of potential value to other organizations, solutions to specific problems, state-of-the-art advancement, and journal articles. Technical Reports may be definitive, exploratory, or a record of inconclusive or negative findings.

The scientific and technical information processes within the Air Force are used to facilitate the communication and enrich the development and use of technical information during the planning and conduct of an R&E project. Conversely, the performance of an R&E program effort is not considered complete until the scientific and technical information, including related program information has been satisfactorily documented and provided to the appropriate scientific and technical information process.

All significant or technological observations, findings, recommendations, and results derived from DOD endeavors, including those generated under contracts or grants, that are pertinent to the DOD mission or contribute to the DOD or national scientific or technological base must be recorded as technical documents.

Procedures have been established to ensure that copies of such documents are made to the DOD R&E community and to the civilian scientific and technical community within established security and other limitation control. Such documentation is prepared and distributed within six months after the work is accomplished.

The Air Force Information for Industry Office (AFIFIO), under the direction of the Air Force Systems Command (AFSC), was established with the express purpose of providing a focal point wherein the industrial community could obtain information on Department of Defense (DOD) and USAF acquisition, research and development requirements, plans, and future needs. The AFIFIO will serve as an access point to DOD and USAF planning and requirements for representatives of industry, small business, university, and nonprofit institutions.

AFIFIOS are collocated with counterpart US Army and US Navy offices in Triservice Industry Information Centers (TIICs) in Alexandria, Virginia; Wright-Patterson AFB, Ohio; and in Pasadena, California. Through these facilities, the USAF hopes to encourage and facilitate the exchange and exploitation of scientific and technical breakthroughs, innovations, and information. As a result of the cooperation both within the DOD and among its contractors, the USAF expects to tap the resources of the scientific community in the interests of national defense.

The US Air Force Potential Contractor Program (AFPCP) was established to certify and register non-government activities for access to controlled scientific and technical information. This includes information on Air Force needs, requirements, work, and accomplishments associated with research, development, test, and evaluation. Under this program, the Air Force will sponsor qualified and eligible organizations for access to planning and technical information from the Air Force Information for Industry Offices and the Defense Technical Information Center (DTIC). DTIC products available include technical reports, report bibliographies, and summaries of ongoing research and development.

Now for some comments on the ORTA functions in the Air Force. Although our assigned military mission is preeminent, we also have a history of working effectively with local and state governments. We will continue that service. We believe ours is a tradition fully consistent with Public Law 96-480. We will work to improve this support as the law requires.

The application assessment called for in Section 11 will be incorporated into our routine laboratory program review system. Each

laboratory commander during his existing technical management reviews will identify projects applicable to the non-defense community -- local and state governments and private industry. These assessments will then be forwarded to the scientific and technical information offices.

There are now 11 assigned ORTA focal points at the 15 R&D Laboratories within the Air Force. A listing of these focal points is available upon request.

We are now in the process of establishing a research and technology transfer plan. This plan, based upon the model prepared by the Department of Agriculture, will be used in all our active technology transfer efforts and will provide consistency throughout our laboratories. It will also provide a record of manpower and monies expended by the Air Force in their active technology transfer role, and will be invaluable in documenting and formulating responses to inquiries.

We are also attempting to finalize guidelines for the use of technological resources. We must ensure that the level of technology transfer efforts does not interfere with the accomplishments of our mission.

Rebuilding our military technological base demands technological innovation. We must apply technology wherever it can be found. We must reduce the barriers to transfer information in ways that are consistent with our national security requirements. We feel our laboratories have a good record in technology transfer. We are committed to continued efforts in this area and will provide the policy guidance necessary to achieve the desired results.

## DTIC AND THE STINFO PROGRAM MRS. STERLING ATCHISON

To be supplied as an addendum at a later date.

PRECEDING FACE BY

INDUSTRY SUCCESS WITH STINFO
MR. FRED LEWIS

## ONE COMPANY'S EXPERIENCE USING THE DEFENSE TECHNICAL INFORMATION CENTER'S ON-LINE R&D DATA BANKS

FRED LEWIS
HUGHES AIRCRAFT COMPANY
RADAR SYSTEMS GROUP
LOS ANGELES, CA
NOVEMBER, 1981

## WOULD A COMPUTER HELP?





"OUR DTIC TERMINAL IS ON THE BLINK. HIRE 16,000 OFFICE WORKERS FOR THE NEXT 2 DAYS."

### IN 1975

\* HUGHES MAIN LIBRARY HAD A CHANCE TO GET A CLASSIFIED ON-LINE DDC TERMINAL

DECIDED AGAINST IT

HAD PLANS TO GET ONE IN "SOME" FUTURE YEAR

### IN 1977

- RADAR SYSTEMS GROUP (RSG) WAS IN THE CULVER CITY FACILITIES OF HUGHES
- NEW RSG BUILDING WAS BEING BUILT IN EL SEGUNDO BY THE L.A. AIRPORT
- NO SPACE IN NEW BUILDING OR A BUDGET FOR A DTIC TERMINAL

# IT WASN'T EASY, BUT IT'S WORKING!

STARTED PLANNING FOR THE TERMINAL IN MAY '78

\* PROBLEMS ALONG THE WAY

SPACE & BUDGET FOR TERMINAL

AIR FORCE SPONSOR

CHANGE OF PEOPLE AT DDC

GETTING A NEW COMSEC ACCOUNT

DELAYS IN EQUIPMENT DELIVERIES

POOR ENGINEERING OF INSTALLATION (AF)

LACK OF KNOWLEDGE BY UNIVAC COORDINATION OF AF, TELCO, DTIC, MAC

DAMAGE TO EQUIPMENT IN SHIPMENT

\* RSG ON-LINE IN APRIL 1980

# FIRST YEAR'S EXPERIENCE WITH DTIC

\* GAINING EXPOSURE

\* CONVERTS TO THE SYSTEM ARE GROWING

FINDING NEW USES EVERY MONTH

\* RSG IS ONE OF THE TOP USERS IN THE COUNTRY

PRODUCTIVITY (SEARCHING FOR DATA) IMPROVEMENT IS AT LEAST 10:1 REQUIRES AN AGRESSIVE APPROACH TO CHANGE PEOPLE'S HABIT PATTERNS

### HUGHES DTIC TERMINALS

CLASSIFIED

UNCLASSIFIED DIAL UP

RSG/S&CG LIBRARY

MARKETING RSG

CULVER CITY LIBRARY

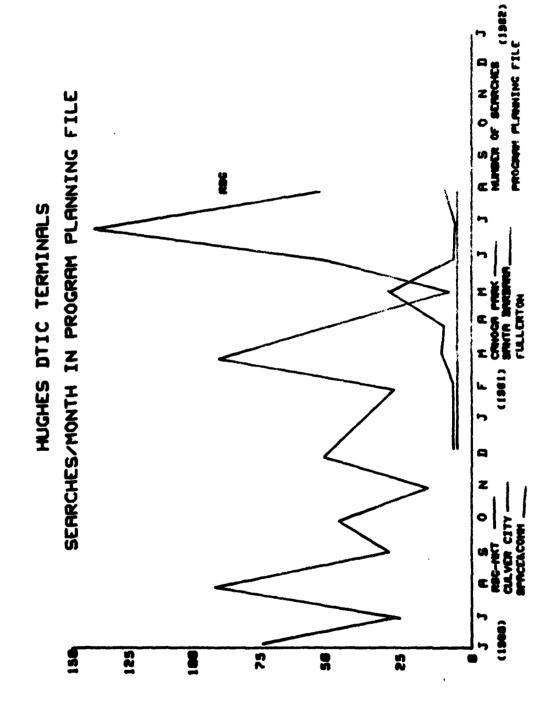
CANOGA PARK (STAFF)

SANTA BARBARA LIBRARY

### PLANNED

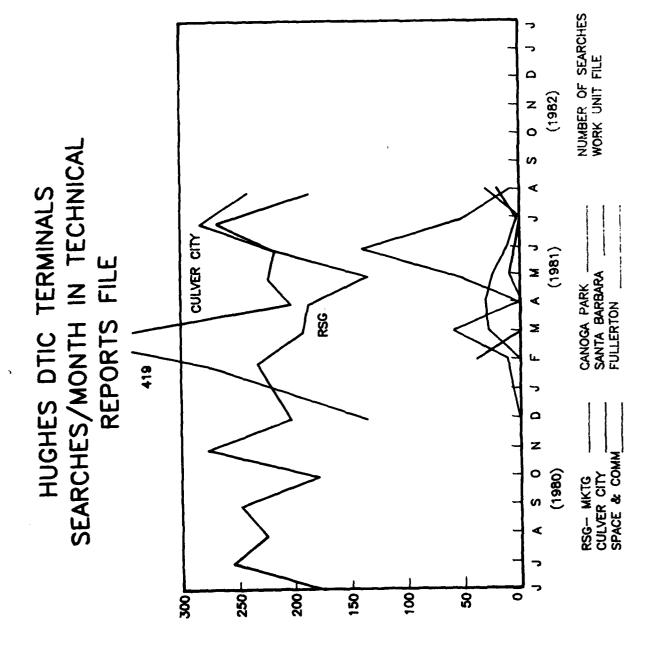
MSG CANOGA PARK

**GSG FULLERTON** 



0 NUMBER OF SEARCHES WORK UNIT FILE SEARCHES/MONTH IN WORK UNIT FILE RSG HUGHES DTIC TERMINALS CANOGA PARK
SANTA BARBARA
FULLERTON (1981) Z 0 RSG- MKTG. --CULVER CITY --SPACE & COMM (1980)Š <u>\$</u> 3 8 250 8

(1982)



## RSG ADVANCED ENGINEERING LAB

- \* GAVE DTIC BRIEFING TO MANAGER & HIS STAFF
- MARK LANDAU DIRECTED THAT ALL HIS 175 TECHNICAL STAFF COME UP AND "PLAY" WITH THE COMPUTER TO FIND, OUT WHAT IT WILL DO FOR THEM
- \* FOR 4 MONTHS WERE SWAMPED BY THESE PEOPLE
- \* REPEAT CUSTOMERS

### YOUNG M.I.T. ENGINEER

INFORMATION. (COST \$400, OPPORTUNITY COST \$400) \* SPENT 1 WEEK LOOKING FOR SOME TECHNICAL

\* SPENT 5 MINUTES WITH DTIC

\* HAS BEEN BACK 9 TIMES FOR ADDITIONAL SEARCHES

LEWIS CONCEPT:

"PRIVATE GET SMART TOOL"

WHAT'S NEW OWN PERSONAL

DATA BANK!

WHAT'S HAPPENED IN THE

**PAST** 

EASY TO USE

KEEP YOUR OWN DON'T HAVE TO FILES

\* FAST RESPONSE

BY A 450-PERSON UPDATED DAILY ORGANIZATION CAN GET "TAILOR-MADE" INFORMATION ANYTIME

## SERENDIPITY - WORK UNIT FILE

\* A CHANGE IN ONE WORK UNIT REFERENCED AN IN-HOUSE EFFORT

\* BROUGHT THIS TO ATTENTION OF TECHNICAL STAFF (BERNIE SCHERER)

\* HE DIDN'T KNOW ABOUT IT, BUT CALLED THE MAN & ESTABLISHED A DIALOG. MAY BE AN RFP OUT NEXT YEAR ESTABLISHED A DIALOG.

### A SENIOR RSG SCIENTIST

SPENT 2 MONTHS LOOKING FOR SPECIFIC TECHNICAL INFORMATION WITHOUT SUCCESS (COST \$3,333, OPPORTUNITY COST \$3,333)

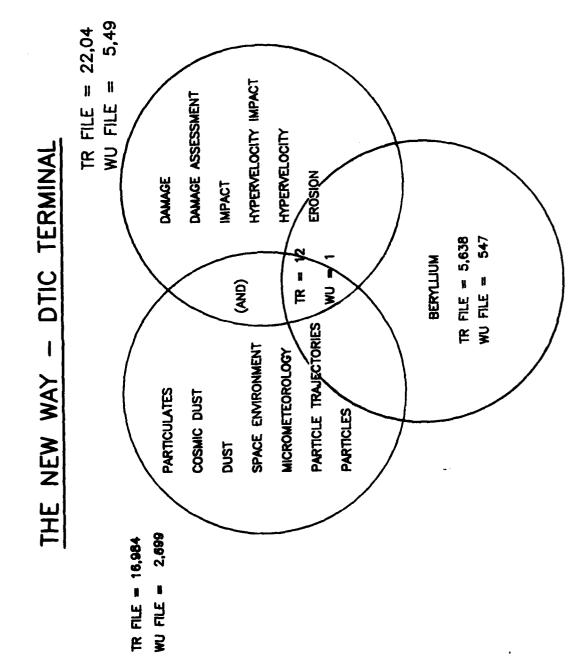
FOUND 90% OF WHAT HE NEEDED IN 10 MINUTES WITH DTIC

### TIME STUDY OF OLD WAY VS NEW DTIC TERMINAL SEARCH

\* REQUESTER: DR. LEO STOOLMAN

\* REQUEST: "WHAT IS AVAILABLE IN PRINT ON THIS, AND WHAT ARE PEOPLE DOING RIGHT NOW ON:

`IMPACT DAMAGE OF PARTICLES ON BERYLLIUM SURFACES IN SPACE'"



,	AFWAL-1R-02-0002					
	PRODUC- TIVITY	IMPRVMT	3.75:1	351:1	HUGE	350:1
PRODUCTIVITY IMPROVEMENT	TIME		30 - 8 = 22 MINUTES	2460 – 7 = 2453 MINUTES 44,669 HITS 12 FINDS	3 WEEKS	TR ONLY 41 HOURS
	NEW WAY (DROLS)		8 MINUTES (USING TERMINAL)	1 MINUTE (COMPUTER TIME) 6 MIN- UTES (PRINTER TIME)	1 MINUTE (COMPUTER) 3 MINUTES (PRINTER)	TR + WU = 17 MINUTES
	OLD WAY (BY HAND)		30 MINUTES	41 HOURS OR 2460 MINUTES	MAIL REQUEST TO DTIC & RETURN 3 WEEKS	41 HOURS TR 3 WEEKS WU
ul-	ACTION		INTERVIEW & KEY WORDS	SEARCH TR's 8 8 INDEXES + 26 ABSTRACTS PER YEAR FOR 19 YEARS	SEARCH WORK UNITS (WU FILE)	TOTAL
				<del>3</del> 0		

### DTIC CAN SAVE TRAVEL COSTS

- \* 3 MEN, TICKETS IN HAND (TO DAYTON & WASHINGTON) STOPPED BY TERMINAL
- \* SEARCHED ALL DATA BASES FOR SUBJECT OF TRIP
- \* FOUND INFORMATION NEW TO THEM AT EGLIN & IN NAVY
- \* CANCELLED TRIP. SAVED ~ \$3,000

### PRODUCTIVITY IMPROVEMENT, 144:1

SUBJECT: FILAMENT WOULD MOTOR CASE - HARM

### RESEARCHER, AUGUST 1981:

"SAVED ME AN INCREDIBLE AMOUNT OF TIME.

9 DAYS OF CONCENTRATED EFFORT VS A

TOTAL OF 1/2 HOUR (WITH SEVERAL SHORT
SESSIONS ON THE TERMINAL.)"

(\$3600 SAVINGS)

### PROBLEM JULY 1981

HUGHES SUPPLIED OLD DATA TO A CBD ANNOUNCEMENT SPACECRAFT FIRE CONTROL SYSTEM SUBJECT:

### SOLUTION

- \* DTIC SEARCH OF GENERAL TECHNOLOGY AREA & 5 YEARS OF HUGHES CONTRACTS
- \* FOUND LOTS OF HITS. 1/2 DAY ON DTIC. WOULD HAVE REQUIRED ONE MONTH BY HAND (SAVINGS OF \$5320)

# DTIC TERMINAL GETS INFORMATION QUICKER

OLD WAY	(CULVER CITY	LIBRARY)	
уч	2)		

VIA RSG DTIC

4-6 DAYS	5-6 WEEKS
3 WEEKS	4 MONTHS
* TECH. REPORTS	* "L" DOCUMENTS

\* "L" DOCUMENTS

### DTIC HAS "TIME UTILITY"

- \* TIMING IS EVERYTHING
- \* THERE IS A TIME WHEN INFORMATION WILL HELP A PERSON, AND WHEN IT'S TOO LATE
- \* THE RIGHT INFORMATION USUALLY LEADS TO ASKING BETTER QUESTIONS AND REQUIRING CERTAIN MORE SPECIFIC INFORMATION
- \* THERE IS A TIME WHEN PEOPLE WANT AND WILL USE INFORMATION

### THE TIME UTILITY OF DTIC DROLS

### THURSDAY, SEPT. 3, 1981

- \* NEW TAB CAME ON LINE
- \* FOUND 3 HITS ON "PHASE SHIFT CIRCUITS",
  A STANDARD SEARCH FOR C. QUAN IN SUMMARY RUN
  WE MAKE OF TR FILE
- \* CALLED C. QUAN & HE CAME TO SHERRIL, REVIEWED THE 3 AND WANTED 1 OF THEM
- \* SHERRIL ORDERED THE REPORT, "EFFECTS OF ERRORS ON THE SIDE-LOBE LEVEL OF A LOW-SIDE-LOBE ARRAY ANTENNA" (NRL) VIA TERMINAL

### TUESDAY, SEPT. 8

\* ORIGINAL COPY OF REPORT IN FIRST MAIL DELIVERY

### UNDERSTANDING WORK UNITS AND PROGRAM PLANNING

### DR. GOLTZMAN EXAMPLE:

- \* KNEW ABOUT THE TR FILE BUT NOT THE WORK UNITS & PROGRAM PLANNING
- \* AT FIRST, SEARCHED ONLY IN THE TR FILE
- \* NOW SEARCHES HEAVILY IN THE 1498 & 1634 FILES
- \* REASON: PERSONAL EDUCATION FROM OUR TERMINAL OPERATOR

### THE IMPORTANCE OF HAVING CURRENT & COMPLETE DATA IN DTIC DROLS

- \* IT MAY TAKE ME 2 MONTHS TO GET SOMEONE TO COME TO OUR TERMINAL
- \* ONCE HE'S THERE HE WILL ASK FOR ONE SEARCH (COULD BE ANYTHING)
- \* FROM THIS ONE SEARCH HE WILL DECIDE WHETHER DTIC IS ANY GOOD
- \* IF THE DATA ISN'T THERE, HE WON'T COME BACK

AD-A118 935 UNCLASSIFIED	AIR FORCE WRIGHT AEROMAUTICAL LABS WRIGHT-PATTERSON AFB OH F/6 5/1 PROCEEDINGS OF THE UNITED STATES AIR FORCE STINFO OFFICERS POLIETC(U) AUG SZ J G JOHNSON MI AFVAL-TR-82-0002					
20.3 # 8986				1 2 2	NL ∂ <sub>a</sub>	
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2 0						
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### ENGINEERING GRADUATES PER YEAR

U.S.

50,000

U.S.S.R.

300,000

### CONCLUSION

- \* WE NEED A BETTER RDT&E MANAGEMENT INFORMATION SYSTEM THAN THE RUSSIANS
- \* A VITAL PART OF SUCH A SYSTEM IS AN ON-LINE DATA BASE THAT IS CURRENT & COMPLETE
- \* DROLS IS THE ONLY ON-LINE R&D DATA BASE SYSTEM AVAILABLE TO INDUSTRY

### WHAT INDUSTRY NEEDS

**DD1498** 

DD 1634

WORK UNIT

PROGRAM PLANNING

\* FOR EVERY P.E., PROJECT, WORK UNIT

\* ANY CHANGE GETS ON-LINE WITHIN A MONTH

\* STRONG MANAGEMENT PUSH BY SERVICES TO INPUT PROMPTLY

\* STRONG MANAGEMENT PUSH BY OSD

\* MUCH STRONGER EMPHASIS BY DTIC

### WAYS WE USE PROGRAM PLANNING FILE

- \* TO SEE WHAT THE SERVICES ARE PLANNING BEFORE IT GETS OUT ON CONTRACT
- \* ON-LINE SEARCHING IS A GREAT HELP TO FIND OUT WHAT'S GOING ON
- \* TECHNICAL STAFF TRAVELS A LOT BUT:
  - \* DON'T WRITE THINGS DOWN
  - \* DON'T COMMUNICATE WELL TO OTHERS
- \* GET MANAGEMENT APPROVAL FOR IR&D
- \* HELPS OUR ADVANCED THINKERS TO:
  - \* BE MORE IN TUNE WITH CUSTOMER REQUIREMENTS
  - \* GAIN A BROADER PERSPECTIVE

### WITH CURRENT & COMPLETE 1498s & 1634s

### FOR RADAR SYSTEMS GROUP ONLY:

DTIC TERMINAL COULD SAVE 90% OF THE TIME REQUIRED TO SEARCH FOR TECHNICAL & MANAGEMENT DATA

600 PEOPLE SPEND 10 HOURS/MONTH SEARCHING = 72,000 HOURS/YEAR @ \$40/HOUR = \$2,880,000/YR SAVE 90% 2,880,000 = \$2,592,000/YR

### POTENTIAL SAVINGS FOR INDUSTRY IF DROLS HAD COMPLETE & CURRENT DATA

HUGHES SAVINGS = \$8,000,000/YEAR

IF 25 OTHER DOD CONTRACTORS CAN SAVE HALF AS MUCH AS HUGHES, TOTAL INDUSTRY SAVINGS COULD BE:

25 X \$4,000,000 = ~ \$100,000,000/YEAR
THAT AIN'T HAY!

### PROGRAM PLANNING SUMMARIES (DD 1634s) WAYS OUR DTIC DROLS CAN BE IMPROVED

DON'T CHANGE THE SYSTEM, BUT COVER ALL THE TECHNICAL WORK DONE BY DOD AND THEIR CONTRACTORS

	% OF TOTAL	P.E.s WITH A
92%	48%	42%
ARMY	NAVY	AIR FORCE

# WAYS TO IMPROVE PROGRAM PLANNING FILE

2. PUT IN CURRENT DATA, NOT OLD DATA

SUPPOSED TO BE CURRENT FY + 2

\* ARMY INPUTS ARE THE MOST CURRENT

\* NAVY INPUTS NEXT BEST

\* AIR FORCE THE WORST

\* DON'T WAIT & INPUT ONCE/YEAR

\* INPUT 3-4 TIMES/YEAR

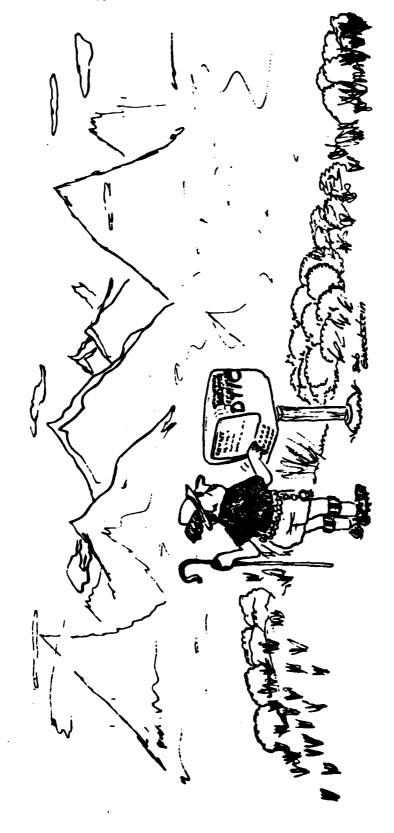
## THE AIR FORCE IS ON THE BALL!

### WORK UNIT SEARCH VHSIC PHASE III

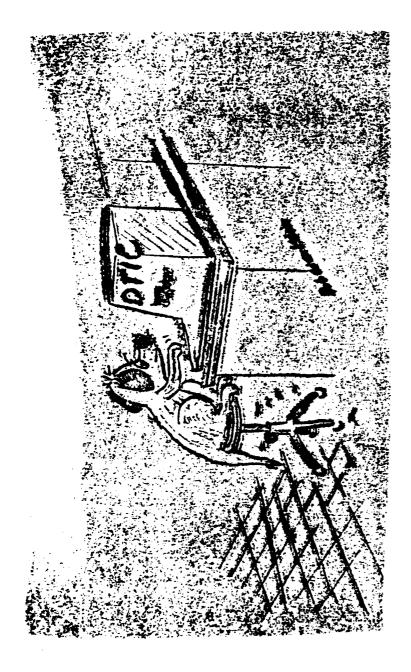
SEARCH 45 VHSIC CONTRACTS:

NO. OF WORK UNITS 5 NO. OF CONTRACTS 14 AIR FORCE 13 NAVY 13 ARMY

The state of the s



# ALPINE SHEPHERD NEEDS INFORMATION ON HIS FLOCK



### AT REMOTE TERMINAL, TELECOMMUTING SHEEP DOG SENDS BACK FLOCK'S LOCATION

TECHNICAL LIBRARIES AND THE STINFO PROGRAM

MS. FRANCIS QUINN

### AIR FORCE LIBRARIES

LIBRARY SERVICE CENTER

SCIENTIFIC AND TECHNICAL

EXTENSION SERVICE

BASE/GENERAL

ACADEMIC

SPECIAL

# SCIENTIFIC AND TECHNICAL LIBRARY

AN AUTHORIZED LIBRARY THAT SUPPORTS THE RESEARCH DEVELOPMENT, WITH ANOTHER TYPE LIBRARY ON A BASE. IT OFFERS INFORMATION MERCIAL AND GOVERNMENTAL DATA BASES (FOR EXAMPLE, DEFENSE SERVICES TO ITS USERS, SUCH AS ON-LINE ACCESSING OF COM-AND TECHNICAL INFORMATION OFFICER (STINFO) AND MAY COEXIST ECHNICAL INFORMATION CENTER (DTIC), LOCKHEED DIALOG, AND TEST, AND EVALUATION (RDT&E) PROGRAMS OF THE AIR FORCE. IT OPERATES IN CLOSE COOPERATION WITH THE SCIENTIFIC SO FORTH)

VFR 215-15

# AFSC TECHNICAL LIBRARIES

HQ AFSC	AFATL
AFWAL	WSMC
AEDC	ESMC
AFFTC (6510 ABG)	FTD
AFGL	USAF SAM
AFWL	AFHRL
RADC	EOARD
6585 TEST GP	WHMC
AFOSR	

# COLLECTION SPECIALIZATIONS

MANAGEMENT

PHYSICAL SCIENCES

AERONAUTICAL ENGINEERING

ARMAMENT/ORDNANCE

AEROSPACE SCIENCES

SPACE & MISSILE TECHNOLOGY

FLIGHT TEST & ROCKET PROPULSION

FOREIGN TECHNOLOGY

ENVIRONMENTAL SCIENCES

AEROSPACE MEDICINE

NUCLEAR ENGINEERING

**PSYCHOLOGY** 

ELECTRONICS

HUMAN RELATIONS

MEDICAL SCIENCE

COMMUNICATIONS

GENERAL ENGINEERING

ADP

### ONLINE SERVICES

DEFENSE TECHNICAL INFORMATION	
CENTER	10
DIALOG (LOCKHEED)	15
ORBIT (SDC)	8
BIBLIOGRAPHIC RESEARCH SERVICE	2
oclc	12
NEW YORK TIMES INFORMATION BANK	4
MISC (NASA/RECON, DOE/RECON, MEDLINE)	10

### AFSC TECHNICAL LIBRARY COLLECTIONS CONSOLIDATED DATA FY 81

BOOKS 683,538

TECHNICAL REPORTS 2,005,248

PERIODICAL SUBSCRIPTIONS 14,778

MISCELLANEOUS MATERIALS 1,274,320

### COMMAND LIBRARIAN

- \* PLANS, POLICIES, PROCEDURES
- \* PROGRAM/OPERATION ASSESSMENT
- \* TECHNICAL ADVICE TO MAJCOM COMMANDER
- \* DIRECTIVES AND POLICY GUIDANCE OF HIGHER HEADQUARTERS
- \* CONSULTANT TO FIELD
- \* STAFF ASSISTANCE VISITS
- \* TECHNICAL LIBRARIES/STINFO/DTIC
- \* NETWORKS
- \* PERSONNEL
- \* TRAINING
- \* HQ USAF CENTRAL TECHNICAL PUBLICATIONS PROCUREMENT PROGRAM
- \* SEMIANNUAL LIBRARY REPORTS
- \* PROFESSIONAL ORGANIZATIONS

LEGAL ASPECTS IN THE STINFO PROGRAM

MR. FRANK LUKASIK

### 1981 STINFO CONFERENCE

### INTELLECTUAL PROPERTY UPDATE

BRIEFER: FRANK A. LUKASIK

CHIEF, PATENT LAW DIVISION

OFFICE OF THE STAFF JUDGE

**ADVOCATE** 

HQ AIR FORCE SYSTEMS COMMAND

### MAJOR FEATURES

- \* UNIFORM GOVERNMENT PATENT POLICY
- \* CONFIDENTIALITY
- \* COMPUTER SOFTWARE
- \* PATENT REEXAMINATION
- \* EXCLUSIVE LICENSING

### HIGHLIGHTS OF NEW PATENT POLICY PL 96-517

- \* ALLOCATION OF RIGHTS
- \* ADMINISTRATION OF PATENT RIGHTS CLAUSE
- \* INVENTION DISCLOSURE AND FILING OF PATENT APPLICATIONS
- \* REPORTING REQUIREMENTS FOR INVENTIONS
- \* PROTECTION OF PROPRIETARY INFORMATION
- \* MARCH IN RIGHTS

### HIGHLIGHTS OF NEW LICENSING REGULATIONS

- \* ALL AGENCIES WILL BE OPERATING UNDER THE NEW LICENSING REGULATIONS
- \* EACH AGENCY WILL HAVE ITS OWN PROCEDURES (AFR 110-33)
- \* MANY PUBLICATIONS AND DATA BASES AVAILABLE TO ASSIST BUSINESSMEN:
  - \* ABSTRACT OF NEW TECHNOLOGY
  - \* PATENT ABSTRACT DIGEST
- \* ORTA (STINFO) RESPONSIBILITY?

### FOIA AMENDMENTS

ADMINISTRATION PROPOSES SWEEPING CHANGES TO FOIA

\* PROTECTS INFORMATION UNDER EXEMPTION 4

\* ALLOWS AGENCIES 30 DAYS TO RESPOND IF MORE THAN 30 HOURS SEARCH AND REVIEW TIME

EXEMPTION FOR TECHNICAL DATA THAT CANNOT BE EXPORTED WITHOUT LICENSE \* CHANGE FAIR MARKET VALUE FOR COMMERCIALLY VALUABLE INFORMATION

### FREEDOM OF INFORMATION ACT (FOIA)

- \* ORION RESEARCH INC. V EPA, 615 F.2d 551 (C.A.1)
- \* WORTHINGTON COMPRESSORS INC. V CASTLE (D.C. D.C. 8/20/81)
- \* GENERAL MOTORS CORPORATION V MARSHALL, (CA 4 NO. 80-1183, 7/17/81)
- \* TANDY CORPORATION V PERSONAL MICRO COMPUTERS INC. (8/31/81)

### RELEASE OF INFORMATION TO THE PUBLIC M. ELIZABETH DAY

### **VISUAL** #

1

2

3

Introductory remarks.

Security/Policy Review: What is it? Why is it required? Who uses it? When does it happen--and how? I'm here today to talk with you a little about these questions--and answer other questions you may have about security review and how it interacts with or affects STINFO functions.

First, what is it? Security review is a required Public Affairs program—the process by which we review information proposed for public release. The Department of Defense recognizes that the American public has both the need and the right to know the military capability of our nation. The taxpayer has a right to know how and where the money is being spent. This knowledge is limited only to the extent that it does not compromise national security.

From Air Force Regulation 190-17: The Air Force is interested in keeping the public fully informed about Air Force activities and will process materials for public release consistent with national security and with Air Force and federal policies.

Security review is the process by which information to be released is reviewed and approved, or cleared, prior to such release. The regulation specifically states "Do not allow any copies of the information to be distributed outside security review channels before the clearance process is complete." You can see that security review is a very serious matter, and we should know about it and regard it as important.

Included in this process is policy review. This is a review intended to assure that we speak with one voice.

Now, what does this mean? Well, it doesn't mean that everyone gets their heads together to make up a story that will appease the public--or get the media off our backs. Nor does it mean that we evade the facts or try to mislead anyone. Nothing raises



3 eyebrows faster than material released to the public which contains data or claims which are at odds with the stated Air Force position. Speaking with one voice, and communicating factual, truthful information is the only way to maintain credible rapport with the public. If we can't agree on the capabilities of a system, or how much it costs, or who is responsible for it, how can we expect a layman electorate to understand? Material is "suitable" for public release when the information is consistent with statements on the public record--and even if someone thinks statements are incorrect, it is not our place to dispute them in public. We don't make policy and we don't change or argue it in public at this level. Policy is made in Washington and changes are made there. Until we receive changes to previously issued policy guidance we must stick to what is on the record. This is what we mean by speaking with one voice.

Many of you are familiar with some or all of these documents. They all have some bearing on how, when, and to whom, information may be released. Briefly:

AFR 190-12 covers Air Force policy on the release of unclassified information to the public, and states that the public will be provided maximum information on Department of the Air Force activities. It also provides that the letter and spirit of the Freedom of Information Act (as implemented by AFR 12-30) will be followed in all cases. It talks about releasing information to news media, permitting interviews by media representatives, accepting public speaking engagements, producing professional writings such as feature articles, professional papers, technical reports and the like, taking part in community activities, and responding to inquiries by members of the general public. It is a good document to be familiar with. You may get questions, especially about interviews. The rule to remember is: Contact your Public Affairs office if you know of any request by a media representative for an interview or for information. Public Affairs is equipped to handle queries from magazines, newspapers,

TV, radio, and other media and must be included in such interviews. In fact, they will do most of the ground and leg work, and set up or schedule the media people. That's their job and most of them are very good at it. Remember to include them in the loop when questions are being asked.

AFR 190-17 is the "Bible" for security review operations and prescribes the clearance process for release of Department of the Air Force information to the public. It tells what information to submit for review, how the process works, and how to appeal a security/policy review decision. It also gives the rules on writing for Air Force publication and defines the responsibility and functions of the Office for Security Review, Secretary of the Air Force Office of Public Affairs.

AFM 190-9 This is a big, thick document just chock full of policies and procedures concerning information activities. I haven't read it all by any means, and may never have time to, but the index provides a ready reference for specific situations or questions.

 $\overline{\text{AFR 190-22}}$  establishes policy and procedures for releasing and distributing unclassified information to foreign nationals. We work very closely with the Foreign Release Office on matters of this nature.

AFR 80-45 This implements DoD Directive 5200.24 which establishes policies and procedures for marking distribution statements on technical documents. I'm sure everyone is familiar with this one.

One thing I might mention regarding the AFSC Supplement to this reg is a situation we had here recently concerning the part added about the export control statement. The supplement says "Place the following notice on <u>all</u> documents generated by Air Force personnel or under Air Force contracts . . . ." I've had calls from contractors, STINFO people, and some others who were really worried that this statement applied to unlimited

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distribution documents. The supplement clearly says "all" and the penalties are no laughing matter. However, it wouldn't make much sense to apply Statement A, then add an export control notice. The two are mutually exclusive. It gave me some trouble here for awhile because some organizations were reading it literally and refusing to approve material for release. Working with Mr. Werner at Systems Command, I was able to obtain a letter stating that this guidance applies only to Statement B material. We can soon expect a revision to the supplement clarifying this point for all.

AFSCR 80-20 I presume you're all familiar with this one since it's one of your STINFO "Bibles." In my business, we're concerned mainly with those sections covering primary vs. secondary distribution, and the prohibition against referencing classified material in unlimited distribution documents.

I won't go into the contractor guidance here since it really doesn't apply to this discussion. You might, however, make a note of the applicable documents since someone, sometime is sure to ask you. Also, Item 12 on the DD Form 254 used in classified contracts requires that information to be released concerning work done under that contract be reviewed and cleared at OASD/PA. The "through" block should be checked, and the appropriate Public Affairs office symbol inserted.

This isn't a rule carved in granite. One must use some judgement when determining whether or not to send material up.

AFR 190-17 spells out those cases in which the information <u>must</u> be sent up; in other cases it may or may not require such review. An example might be an update of something where there really isn't much change to the technical content; perhaps some new pictures are being used or the format revised. Some of this type of thing may be cleared locally, even if the contract contains a DD 254.

6

I'd like to return to AFR 80-45 for just a moment and discuss specifically, who is responsible for assigning distribution statements to technical documents. As shown in this visual, Statement B is applied by the appropriate project or contract monitors (and their supervision) and the sign-off is most often at Division level or above. Statement A may be applied by the same people, but only after completion of the security/policy review process.

Clearance authority rests with the Secretary of the Air Force, but is delegated to the lowest echelon that is competent to evaluate the content and implications of the information involved. This is usually the local commander, who in most cases has delegated the authority to the Public Affairs office. Neither project or contract monitors, their supervision, nor STINFO people have any authority to clear material for public release, or to apply Statement A to any document until it has been cleared for release.

Now I'd like to mention some examples of material which must be reviewed at higher headquarters. General officer speeches, overseas presentations (outside CONUS), and anything to be released in the Washington DC area, must in most instances go up. If other government agencies are involved, they have a right to see the material before release. And, of course, subjects which might be controversial or of high level interest should be seen by higher headquarters. You can bet that anything concerning a new weapon system, such as the MX or the B1B, won't be cleared by anyone in a local office.

7

And, while we're on the subject, where is up? When we say something must go up, we mean it goes from the AFSC field public affairs office to our headquarters at Andrews. There, the determination is made whether or not to send it on to the Secretary of the Air Force Public Affairs in the Pentagon, and they decide whether or not review is required by DoD, other

services, or other government agencies. This visual is not all inclusive since there are a myriad of government agencies which might become involved in clearing a particular document. We'd need a lot more boxes and a whole bunch more arrows to show all the organizations which might become involved.

I guess the most important thing I'd like to point out is the time required for higher headquarters review. I have seen trips cancelled, presentations moved to a later meeting or cancelled, or a technical paper which couldn't be published as planned, because someone failed to look ahead and allow time for clearing the material. We always say allow at least six weeks for clearance of material that must go up. That's not too far off the mark, as I must set suspense dates at least 15 working days ahead, plus mailing and administrative time, and excluding weekends and holidays. This is a point that we can't make too often. It should be a part of the STINFO function to help educate our people. Local clearances can, of course, be worked more quickly. But people should not wait until the last minute. Our local ASD regulation requires that material which can be cleared locally, reach our office at least two weeks ahead of the date of intended release. I'll have more to say about priorities a little later on.

8

Security review regulations and policies are intended to benefit everyone. Active duty military and civilian personnel must comply, as must DoD contractors. Use of the system is optional—but sometimes wise—for former members, retired personnel, etc., especially for those who held high ranking positions, and whose statements might attract public or media attention, or create controversy. The bottom line is, don't say anything to a media representative that you wouldn't want to see in print. And, if you're not sure, clear your statements in advance.

9

Now let's define information. As you can see in this visual, just about anything that contains data pertaining to any Air Force program is included. Some of these sorts of documents you deal with on a daily basis; others you may never see. But my experience in STINFO tells me that you probably get questions. If the government funded the work, all words, pictures, displays, and the like must be cleared before anything can be released publically.

10

And just what constitutes public? The dictionary definition given here is very clear, but we still get questions on what makes a meeting "open" or "closed"--just what is public? First, if the meeting is classified, it is not public. And the only difference between a closed and a classified meeting is the classification of the material being presented. You can't have a closed meeting at the Holiday Inn unless they've started providing secured meeting rooms. And be careful of "by invitation only." It doesn't always mean what it says. Last month at the Air Force Association National Convention in Washington DC there was a reception I rather wanted to attend. However, the schedule said it was "by invitation only." No one invited me, so I didn't go. I later found that I could have gotten an invitation--for \$26.00. This hardly constitutes "by invitation only." It can be misleading, so caution your people about this phrase.

I don't get involved in material intended for closed meetings except for answering questions almost daily. Closed meetings may involve not only civilian and military Air Force personnel; cleared contractor people, and even some foreign nationals or foreign government officials may be included, but the general public and media are not "welcome."

11

During the security reviews process we are looking at material from some very specific viewpoints.

11

First, the information must be unclassified and technically accurate. This must be determined by the technical people who are monitoring the programs. Neither you nor I could possibly be competent to evaluate the classifications or technical accuracy of the hundreds of on-going technical programs handled by the Air Force.

Second, the information must be non-proprietary. I don't worry too much about the rights of the contractor submitting material; I presume he will protect his own rights. But he must also certify that the proprietary rights of other companies are not violated. Trade secrets, methods of manufacture, and other such information, if released to the public, could conceivably result in big losses to a contractor. They spend a lot of money trying to get the jump on their competition and maybe win that next big contract. I'm not sure what the penalties are for violating contractor proprietary rights—and I sure don't want to find out the hard way. Information of this sort may sometimes be included in a technical document with the contractor's permission, but the document must then be protected with a Statement B.

We've already discussed speaking with one voice. In addition, we must view information to be publically released from a public standpoint. Let me tell you a little story to illustrate this "suitability" requirement. Not long ago I had a paper in for clearance that described a piece of new test equipment which was saving a lot of money. The previous method had involved removing some equipment from aircraft, checking it out or testing it, and re-installing it. Many times there was nothing wrong. The author described the old method as "wasting money." The new equipment, which could be packed in a case about the size of a large suitcase and carried by one person, was taken on board the aircraft, and the tests conducted without removing the item being checked. Obviously this made for a considerable cost savings. However, he had made a lot of

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13

Now, we can't regard money spent to ensure safety as "wasted."

I think we'd all rather spend whatever it takes to be safe, than take a chance with our people's lives. But I could see the headlines "AIR FORCE ADMITS TO WASTING MILLIONS!" I pointed this out to the author, and with a little re-writing we came up with a revision that told the story factually, and emphasized the positive aspects of this excellent innovation, without either misleading anyone, or opening the door to a media flap.

We must keep the reader in mind at all times. How will this sound to the man on the street? The non-technical, non-scientific person? The public? The media? We must not imply, nor allow the public to infer, that we are wasting money on such a program. We must get our acts together before we go public because, if the public gets misleading or conflicting information, pretty

soon they won't believe any of us.

Just what is a clearance? This visual puts it in a nutshell. If you have a memo, a letter, or a stamped document, with a case number and date, that certifies the material is cleared, you have a "clearance." Please note that the number assigned is a "case" number, not a clearance number. Material can be amended or disapproved for release under a case number, as well as cleared. If someone tells you something has been cleared, they must be able to cite a case number and date, and tell what agency issued the clearance.

Those of you who deal with clearances, like our laboratory STINFOs here, are probably familiar with the guy who comes dashing in at the last minute, a paper in one hand and a plane ticket in the other. Or he'll call, wanting clearance by telephone. We can't clear what we can't see. And we don't care if it has all been cleared before. If a person has put together a document from a variety of cleared sources, he has a new document and he needs a clearance. He may have been working

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13 on a project for a year or more, writing a paper for weeks or months, and suddenly he remembers, or someone reminds him, that the meeting is public. As an occasional thing, we can excuse the lateness and accommodate the request. As a regular occurrence, it is inexcusable. And, if review at higher headquarters or at other agencies is required, the poor soul is just out of luck. And, if he gives the presentation without a proper clearance, he is violating the directives and a very basic rule--NO SURPRISES! We don't like to see a paper in print, or an advertisement, or a brochure concerning one of our programs, that we've never seen before. Release without clearance is a dangerous practice. It could lead to a security violation-referred to in my office as a "real career-shortener."

Here at ASD I process nearly 3000 cases each year. They can't all be handled "first." Just like you folks in STINFO, I have to process requests in the order of receipt, with rare exceptions, and keep reminding everyone that priority means "the having of certain rights before another." I sometimes

ask "Who do you want to get ahead of? Do you want me to tell them you did?" It isn't fair to the person who submitted his report or paper on time to have his work delayed while late comers are accommodated. When everything is priority, nothing

is priority.

15 This is a visual that Walt Werner of Systems Command uses in briefings. He asked me to remind you that he receives material from about a dozen Public Affairs offices for clearance. His "in" baskets probably look just like mine--and yours too. So please, remind your people, don't shoot the piano player--or any of us for that matter. We're all doing the best we can to provide the best possible service to everyone and we do try to be fair always.

- Before I open this up for questions, I'd like to ask you just one. Is <u>this</u> meeting open or closed? Should my talk have been cleared for public release? How about the other speakers?
- Take another look at this visual. Now look around the room. I rest my case--and here is my clearance. Remember, we said that clearance authority rests with the Department of the Air Force, delegated to the lowest echelon competent to evaluate the material. It says right here, "Cleared for Public Release, Department of the Air Force, Aeronautical Systems Division, Office of Public Affairs." It is signed and dated, and down here in the corner it says ASD 81-2239--that's the case number.

Open for questions.



### SECURITY REVIEW

PROCESS BY WHICH INFORMATION TO BE

RELEASED TO THE PUBLIC IS REVIEWED

AND CLEARED PRIOR TO SUCH RELEASE.

### POLICY REVIEW

\* PROCEDURE TO ENSURE THE INFORMATION DOES NOT

CONFLICT WITH AIR FORCE, DOD, OR FEDERAL POLICIES

OR PROGRAMS.

\* "SPEAK WITH ONE VOICE" \*

# APPLICABLE DOCUMENTS

F	HE 190 SERIES OF	THE 190 SERIES OF AIR FORCE DIRECTIVES,
ESPECIALY:	AFR 190-12	RELEASE OF UNCLASSIFIED INFORMATION TO THE PUBLIC
	AFR 190-17	REVIEW AND CLEARANCE OF DEPARTMENT OF THE AIR FORCE INFORMATION
	AFM 190-9	INFORMATION POLICIES AND PROCEDURES
	AFR 190-22	RELEASE OF UNCLASSIFIED INFORMATION TO FOREIGN NATIONALS
	AFR 80-45	DISTRIBUTION STATEMENTS ON TECHNICAL DOCUMENTS (AS SUPPLEMENTED BY AFSC)
ALSO:	AFSCR 80-20	AFSC TECHNICAL REPORT PROGRAM
CONTRACTOR GUIDANCE		
	DOD 5220.22R	INDUSTRIAL SECURITY REGULATION
	DOD 5220.22M	INDUSTRIAL SECURITY MANUAL FOR SAFEGUARDING CLASSIFIED INFORMATION
	DD FORM 254	INCLUDED IN CLASSIFIED CONTRACTS

### TO SECURITY REVIEW/OASD/PA FOR REVIEW AND APPROVAL PROPOSED CONTRACTOR PUBLIC RELEASES SHALL BE SUBMITTED THROUGH (SPECIFY) DD-254 ON CLASSIFIED CONTRACTS **ITEM 12** OR DIRECT

Visual #5

# APPLICATION OF DISTRIBUTION STATEMENTS

* LIMITED TO GOVERNMENT AGENCIES	* STATEMENT IS APPLIED BY PROJECT/ CONTRACT MONITORS AND THEIR SUPERVISION	* SIGNATURE AT DIVISION/EQUIVALENT LEVEL OR ABOVE	* APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.	* STATEMENT APPLIED AS ABOVE ONLY AFTER COMPLETION OF SECURITY/POLICY REVIEW AND CLEARANCE	* CERTIFICATION OF CLASSIFICATION, TECHNICAL ACCURACY AT SAME LEVEL AS ABOVE
STATEMENT B			STATEMENT A		

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## CLEARANCE CHANNELS

OASD/PA

AFSC/PAS

SAF/PAS

AFSC FIELD PUBLIC AFFAIRS OFFICES

AIR FORCE OFFICES/AUTHORS
AFSC CONTRACTORS
PUBLIC SPEAKERS
FILM MAKERS
MARKETING/ADVERTISING
DEPARTMENTS

### WHO MUST COMPLY?

- \* ACTIVE DUTY MILITARY AND CIVILIAN PERSONNEL
- \* AIR NATIONAL GUARD AND RESERVE PERSONNEL WHEN ON ACTIVE DUTY
- \* DOD CONTRACTORS

### OPTIONAL USE

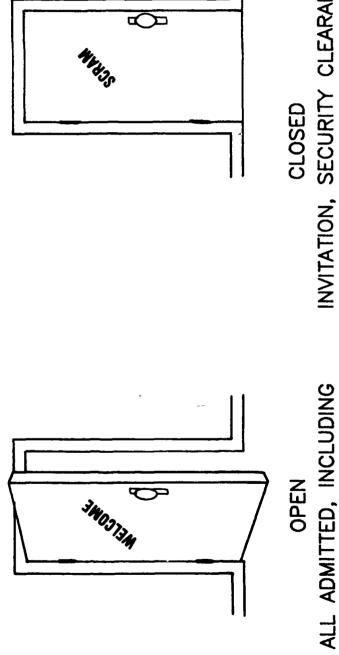
\* FORMER MEMBERS, RETIRED PERSONNEL, AND MEMBERS OF AIR NATIONAL GUARD AND RESERVES NOT ON ACTIVE DUTY.

## INFORMATION DEFINED

"INFORMATION" INCL	"INFORMATION" INCLUDES, BUT IS NOT LIMITED TO
* TECHNICAL/OTHER PAPERS	TECHNICAL/OTHER PAPERS OR PRESENTATIONS FOR CONFERENCES, SYMPOSIA, WORKSHOPS, MEETINGS, CONVENTIONS, AND THE LIKE.
* TECHNICAL REPORTS	* JOURNAL ARTICLES
* CHARTS, TABLES, GRAPHS	* PHOTOGRAPHS, WITH OR WITHOUT CAPTIONS
* ABSTRACTS	* SPEECHES
* NEW/PRESS RELEASES	* ADVERTISEMENTS
* MARKETING BROCHURES	* FILMS/VIDEO TAPES & SCRIPTS
* EXHIBITS	* DISPLAYS
* SLIDES	* SUMMARIES

### "PUBLIC" DEFINED

THE PEOPLE AS A WHOLE, THE COMMUNITY, STATE, OR NATION ... 3. PUB-LIC (PUB'LIK) ADJ. 1. OF, PERTAINING TO, OR AFFECTING OPEN TO ALL THE PEOPLE...6. OPEN TO THE VIEW OR KNOWLEDGE OF ALL.



INVITATION, SECURITY CLEARANCE, OR OTHER SPECIAL PERMISSION REQUIRED FOR ATTENDANCE.

MEDIA OR OTHER MEMBERS

OF THE GENERAL PUBLIC.

# WHAT ARE WE LOOKING FOR?

INFORMATION TO BE RELEASED TO THE PUBLIC MUST BE:

\* UNCLASSIFIED

TECHNICALLY ACCURATE

\* NON-PROPRIETARY

SUITABLE FOR PUBLIC RELEASE

Visual #11

# CLEARANCE FOR PUBLIC RELEASE

CERTIFICATION BY MEMO, LETTER, OR STAMP, THAT THE

INFORMATION IDENTIFIED HAS BEEN REVIEWED BY

COMPETENT AUTHORITY AND IS SUITABLE FOR RELEASE

TO THE PUBLIC.

Visual #12

## APPROPRIATE QUOTES

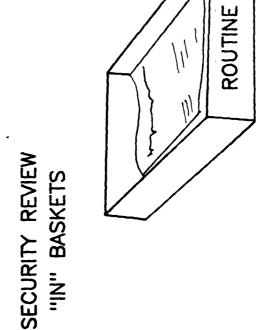
\* "WE CAN'T CLEAR WHAT WE CAN'T SEE."

\* "IT'S ALL BEEN CLEARED BEFORE."

\* "BUT I'VE GOT A PLANE TO CATCH."

## "PRIORITY" DEFINED

2. PRECEDENCE IN PRI-OR-I-TY (PRI OR' A TI) N. 1. STATE OF BEING EARLIER IN 3. THE HAVING OF CERTAIN RIGHTS TIME, OR OF PRECEDING SOMETHING ELSE. ORDER, RANK, ETC. BEFORE ANOTHER.



WHEN EVERYTHING IS PRIORITY - NOTHING IS PRIORITY.

PRIORIT

Visual #14

# PLEASE DO NOT SHOOT THE

# PIANO PLAYER - HE'S DOING

### THE BEST HE CAN

### SOFTWARE IN TECHNICAL REPORTS

### MR. WALTER BLADOS

During the past year or so, there was a great deal of confusion concerning the release of technical reports which contained computer software packages.

Well, I guess we can finally put that problem to rest. AFSC Supplement I to AFR 300-6 was published on 25 August 1981, and clearly details the actions which should occur if computer software packages are included in publications, reports, or documents for distribution to non-Air Force organizations.

The guidance is, and I quote from the AFSC Supplement:
"Computer software will not be included in technical reports
that are distributed outside of DOD. When computer software is
an essential part of the technical report, place it in the report
as an appendix. Withdraw the appendix from the reports that are
distributed outside of DOD and replace it with instructions for
requesting software according to this regulation."

So, when you get a technical report that contains a computer software package, and you want to release it outside of DOD, remove the pages containing the software package and insert a brief description of the software, using NTIS Form 231 (Computer Products Catalog Data Sheet) or Standard Form 277 (Computer Magnetic Tape File Properties) and appropriate instructions for requesting copies of the software (Attachment 21 to AFR 300-6). Those technical reports which would be only useless skeletons if the software were removed, should be controlled as if they are, in fact software.

We recognize that many technical reports which contain software packages have already received wide distribution. We do not plan to require retroactive release authority for those technical reports.

### STINFO "THINK TANK" SESSION USING THE CRAWFORD SLIP METHOD

Conducted by Mr. Walter Blados and Dr. John Demidovich

This "think tank" session was designed to elicit thoughts, ideas, and criticisms of the USAF STINFO Program, to determine the current major problems in the STINFO Program, to chart the future direction of the STINFO Program, and to form the basis for initiating STINFO training.

The overall theme of the session was how to improve services to STINFO users who need help. Five target questions were asked of the participants:

- 1. What are the troubles your successor will face in STINFO work upon replacing you?
- 2. What are the troubles of users being served through your kind of STINFO work?
  - 3. What remedial advice would you offer to your successor?
  - 4. What remedial advice would you offer to users of STINFO?
- 5. In "How to" language list the subjects that you would like to be taught or informed about regarding the STINFO Program (e.g., how to prepare a Technical Report Title Page).

The results of the session were analyzed by Dr. C. C. Crawford, Professor Emeritus, University of Southern California. The conclusions are found on page 209 of this report.



Authors present a simple "Slip method" for organizing information.

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### Think Tank Technology for Systems Management

BY DR. C. C. CRAWFORD and DR. JOHN W. DEMIDOVICH

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■ Systems managers want to "put it all together," but the pieces of the work often go their separate ways with too little coordination or mutual aid. Such coordination as does happen is usually squeezed through the oral bottleneck of conversations or meetings. We run high-technology information systems with entirely too little mutual understanding between the parts. Mistakes, crises, and low productivity are natural results.

Management coordination by oral contacts resembles (in kind, not degree) a committee meeting of deaf mutes. Our pre-computer qualitative thinking or brainpower mobilization does not do credit to the sophisticated functions managed. Our space age information technology is managed by quite unsophisticated planning, problem solving, and coordination. Between instant wisdom or hasty armchairing and computers talking to computers lies a vast body of analyzing, information gathering, and interdisciplinary exchange which we do very poorly or not at all. This need not be. This article tells why. It describes workshop demonstrations of a better way.

### The Crawford Slip Method

When the author was trying to write his first book, a dresser drawer full of notes on sheets of paper refused to become an organized configuration. After a year or two of frustration he took a ream of blank typewriter paper to the local printer and said:

a) Slice it vertically into two equal strips 4½ inches wide. b) Then cut each strip horizontally into four equal parts to get 4000 slips exactly 2 ¾ x 4 ½ inches. He copied notes from sheets to slips, one sentence per slip, sorted them into chapters, sections, paragraphs, and dictated the book from slips.

His next step was to pick the brains of whole audiences for looseleaf responses on slips to mobilize know-how that was in heads but not in libraries. From those beginnings the Crawford slip method

has become a major research and editorial tool by which managers or headquarters staff analysts can mobilize know-how and brainpower of subordinates, field personnel, or cross-sections of any activity or function that needs to be improved.

This article reports one sample of how to tap a vast treasure of unrecorded know-how and creativity in the heads of America's managers and workers, easily accessible after you learn how to use this research and editorial tool. Our current productivity crisis cries out for better use of the brains of our people.

### **Brainstorming Workshops**

The authors led workshops for two chapters of the Association for Systems Management, at Columbus, Ohio for 104 managers and at Grand Rapids Mi. for 60 managers. Both were run by the Crawford slip method. This gets simultaneous written responses that are independent, anonymous, and on looseleaf slips, easy to classify.

Each audience analyzed first the problems of systems managers, then the Crawford slip method as a tool for solving them. In Columbus there was a critique of systems managers and management, a critical self-appraisal of the profession. In Grand Rapids managers wrote problems or activities on which they rated themselves as expert but on which their successors would need help. Then they wrote advice to their successors about those problems or activities. Their advice slips were clipped behind the problem slips to which they related, to form many little clusters of know-how.

The result was a vast collection of slips on how to improve the systems management profession. Part I of this article combines their perceptions about improvements needed, Part II their impressions of how the Crawford slip method might help to bring improvements.

CRAWFORD ADDRESSES

Consulting: 3832 Mt. Vernon Dr., Los Angeles, Ca 90008, Tel. 213-

294-5015

University: Institute of Safety and Systems Management, USC, Los Angeles.

Ca 90007, Tel. 213-743-6523

### PART I-IMPROVEMENTS NEEDED

The two audiences reached mutually confirming conclusions from different kinds of targeting, as follows:

Columbus critiques. The self-appraisals were targeted as follows: a) Think of specific managers of information systems (any level), b) Think what is less than perfect about how they manage, c) Think WHY they fall short, d) Write remedial suggestions or advice to those managers or to those who train them. About 500 of their critique slips formed the following categories of "how systems managers view themselves or each other."

- ACCESSIBILITY: They are away or too busy to be reached for answers or guidance
- 2. ALOOFNESS: They are "above the masses"
- 3. ASSERTIVENESS: Some are afraid to take a stand
- 4. COMMUNICATION TO SUBORDI-NATES: They often leave subordinates in the dark
- CONTROL: They often lack awareness or control of what is going on
- COOPERATION: Managers proceed separately, not as a team
- CRISES: They respond to crises which should have been prevented
- 8. DEADLINES: They set unrealistic or impossible deadlines
- 9. DELEGATION: Some delegate too little, some too much
- 10. DETAIL: They sacrifice the important to the trivial
- 11. DICTATORSHIP: Some are autocratic
- 12. DISLOYALTY: Some are disloyal to the employer
- 13. EGO: Some are conceited
- 14. FOLLOW-THROUGH: Some make promises or give orders and stop there
- 15. GENERALITIES: Some generalize and ignore essential particulars
- 16. HONESTY: Some are dishenest with the employer or personnel
- HUMAN RELATIONS: They are not people oriented (Huge input here)
- 18. INPUTS FROM ABOVE: They get little guidance or support from above

- INPUTS FROM BELOW: They need more insights than they get from subordinates
- 20. INSTRUCTIONS: Directions to subordinates are not explicit enough
- 21. LISTENING: They don't listen or understand others' ideas
- 22. MANAGEMENT TRAINING: They get too little training in how to manage (Heavy input here)
- 23. MEETINGS: They spend too much time in meetings
- 24. MOTIVATION: They are unable to motivate personnel
- 25. OBSOLESCENCE: They get out of date rapidly
- 26. PERSONNEL TRAINING: They do little to train subordinates
- 27. PLANNING: They do too little planning
- 28. PROBLEM SOLVING: They are too busy or unqualified to solve problems
- 29. PRODUCTIVITY: Activity processes take attention away from end products or services
- 30. QUALITY: There are too many mistakes
- 31. SYSTEM: The pieces of effort don't form one big picture or mission
- 32. TECHNICAL EXPERTISE: Many lack background for technologies they manage
- 33. TIME PRESSURE: They are too busy to think, plan, or solve problems
- 34. USER RELATIONS: They are unable to find what users' needs are or how to meet them
- 35. WRITING: They rely too much on the spoken word

Look over the list and see what is there that relates specifically to INFORMATION systems and is not typical "Management 1" for all managers. (Some slips in each category were more specific than these titles indicate.) Is there in fact a definite field of SYSTEMS management? Keep this question in mind as you read on.

Grand Rapids tips for new managers. The "recycled know-how" from Grand Rapids managers formed about two equal collections: a) Advice on basic management problems which very many managers face, b) Advice more specifically for managers of INFORMATION systems.

Their basic GENERAL management categories (from hundreds of slips) were: Appraisals or evaluations, assignments, compensation, coordination, counseling, decision making, delegation, grievances, hiring, human relations, instructing, interviewing, leadership, marketing, motivation, planning, purchasing, scheduling, self-protection, unions and work loads.



### DR. C. C. CRAWFORD

Dr. Crawford is a management consultant and Emeritus Professor, the University of Southern California. He has authored many books and hundreds of articles in the field of education and productivity. He is most famous for his "think tank" projects for the government and private industry. He is much involved with cost reduction and improved personnel output in a wide variety of activities in both the public and private seer.

### JOHN W. DEMIDOVICH

John Demidovich is a Professor of Management at the School of Systems and Logistics which is part of the Air Force Institute of Technology (AFIT) located at Wright-Patterson Air Force Base. Ohio He is a sponsored speaker of the National Management Association and author of the chapter on Creative Thinking published in a government manual Principles and Techniques of Institution. He is a member of the Creative Education Foundation life member of the Ohio State University Society of Logistics Engineers and Association for Systems Management.



Their more specific INFORMATION system categories in some cases seemed to be as general as the above but held advice slips that were more specific. Here are the categories formed from the many clusters of advice: Audits, billings, cathode ray tube, changes in systems, codes, cost estimates, design of systems, directions, documentation, files, hardware, hospital information, models, proofreading, reports, requests for information, requirements, standards, telecommunications. testing, understandability, user relations, visualizations, walk-throughs and writing.

No one pretended to be qualified to advise on ALL the above problems. But their combined clusters of advice slips are an excellent start toward two manuals, one for managers in general and one for information systems in particular. There was a clearly expressed recognition that their successors needed a better start than they had, and that they could learn much from each other.

### PART II—CRAWFORD SLIP METHOD AS AN IMPROVEMENT TOOL

Hundreds of slips in Columbus yielded 50 categories of uses, applications, or special advantages of the Crawford slip method. Slips in Grand Rapids yielded comparable but different categories because of different targeting. The two sets confirm and supplement each other. They are two "ways to raise our profession by its bootstraps."

Column rategories of applications or advantages. Language of their independent and anonymous slips varied greatly among the average 10 slips per category. All are presented here in parallel language for greater manageability.

- 1. AGENDA: Slips can generate items to be considered in meetings
- 2. BRAINSTORMING ALTERNATIVE: Written way is faster and better than oral
- 3. BY-PASSING: Slips can skip a level of management that won't listen
- 4. CLASSIFICATION: The looseleaf feature makes categorizing easy
- 5. CONSENSUS: Pile-up on viewpoints is a good consensus builder
- 6. CONTROVERSY: Slips make controversial issues easier and safer to handle
- 7. COST REDUCTION: Far more ideas come in per dollar than by the oral way
- 8. CRITIQUES: Slips let us critique hardware, software, projects, almost anything
- 9. DATA BASE: A slip collection is a data pool or resource from which to work
- 10. DESIGNS: Slips can generate ideas to create or refine designs
- 11. DISCUSSION TIME: Slips can save many hours of discussion time
- 12. EQUALITY: Slips give all persons' views an equal chance
- 13. EVALUATION: Results of implementations can be evaluated by slips
- 14. FEAR FACTOR: Anonymous slips let the truth come through (Heavy input here)
- 15. FIRST IMPRESSIONS: First slips have special value as portrayals of feelings
- 16. FLATTERY FACTOR: Anonymous slips leave no reason for flattery
- 17. FOCUS: Many brains converge on a chosen target at one time
- 18. IMPLEMENTATION: Better implementations can come from the better insights
- IMPROVEMENT: Almost anything can be improved when many seek better ways.
- 20. INNOVATION: Parallel but different inputs cross-fertilize each other
- 21. INVOLVEMENT: Slips let vastly more persons participate
- LEVEL OF INSIGHTS: Slips can reveal degree of awareness or understanding of something
- 23. LONE THINKER: Slip writing is a good thinking technique for an individual
- 24. MANAGER STIMULATION: Slips can alert managers to factors they overlook
- 25. MEETINGS: Slips could save vast amounts of meeting time

- 26. MERGER OF SPECIALTIES: All departments or disciplines can add their bits
- 27. MORALE: Being asked is appreciated and may bring relief
- 28. NEEDS ASSESSMENTS: Slips can call attention to deficiencies
- OBJECTIVITY: Anonymous slips let ideas be judged apart from persons who have them
- 30. OPTIONS: Slips yield more choices for solutions or remedies
- 31. READBACKS: Slips can be READ to the group and still be anonymous
- 32. PERIODIC INPUTS: Slips can be a regular feature to get inputs to managers
- 33. PROBLEM ANALYSIS: Slips can reveal roots and components of problems
- 34. PROBLEM IDENTIFICATION: Slips can show where and what the problems are
- 35. PROBLEM SOLVING: Slips can greatly aid in finding sound solutions
- 36. PROJECT PLANNING: Slips let all help on a project plan
- 37. REALISM: Slips stress what each writer thinks important
- 38. RECORD: Slips can be read and studied later, but oral inputs can't
- RICHNESS: Independent writers reveal far more aspects or facets
- 40. SECOND ROUND: Feedback from slips can make a second session even better
- 41. SIMPLICITY: The one-sentence brevity sharpens and clarifies thought
- 42. SOCIAL USES: "Have a slip party"
- 43. SPEED: Production of ideas is far more rapid than by the oral way
- 44. STEREOTYPING: Dominant persons don't influence others
- 45. SUGGESTION SYSTEMS: Slips are a "better suggestion box"
- TENTATIVE IDEAS: Slips let the embryonic ideas get born
- 47. THOUGHT STIMULATION: People learn by writing slips on a target
- 48. TIMIDITY: The timid ones get their say
- 49. TRAINING: Slips can reveal training needs and assemble content
- 50. WOMEN: Slips give a woman a chance in a male-dominated organization

### Grand Rapids Targets for Future Slip Writers

The Grand Rapids managers seemed to see almost everything as a challenge for improvement by recycling know-how as they had begun with their clipped clusters of slips. Language varied, but if you

will put the words "HOW TO IMPROVE" ahead of each of the following words or terms you will get their message. Future seminars could render the profession a major service by pooling know-how under these subtargets.

HOW TO IMPROVE: Breakdown handling, budgeting, clerical output, clerk training, comfort in work areas, computer output, conflict resolution, coordination, data processing, departmental organization, directions for tasks, documentation, error management, feedback from data asers, feedback from staff, generation of ideas, inventory control, manager-employee relations, manager training, manual writing, matching data to users' needs, morale, personal relations, planning, plant housekeeping, plant safety, presentations, prioritizing tasks, problem identification, problem solving, product development, production snarls, productivity, productivity of a special machine, productivity of staff meetings, project accountability, quality control, reporting, resource use, sales calls, sales forecasting, software, standards for evaluation, standards for tasks, steps in doing tasks, system design, time management, tracking progress of work, training, training materials, training new people, turnover, and users' needs identification.

### Authors' Consolidation

A new process or profession sometimes grows by a sudden flash of insight. More often it grows by adding many small refinements that EMERGE from the "big buzzing mass of activity." That emerging is visible here. The slip writers are aware of the INFORMATION problems but are also hard pressed by the general management problems of the "Management 1" type. Feedback of this report may help all to "switch into a lower mental gear ratio" and work on the more specific refinements of INFORMATION systems.

The push for added precision must come from within the systems profession. No other discipline is likely to hand systems managers those specific refinements. Those will come mainly by combing and cross-fertilizing the unrecorded know-how or creativity of systems managers who have faced reality and coped. Once recorded, it is more easily recycled.

This is a bigger challenge than isolated individuals can meet well. A fundamental and large scale effort is needed. The Crawford slip method is a large scale editorial logistics system for just such a function. It is a "pre-computer" and "pre-manual" qualitative assembly line to feed into computers and manuals and libraries the know-how that needs widespread transmission.

### PROCESSING AND PREPARING TECHNICAL REPORTS MR. KEN ZIMMERMAN AND MS. JACKIE DOBEN Abstract of Mr. Ken Zimmerman's Presentation

This paper presented an overview on the policies and regulations that STINFO Officers must comply with in the process of disseminating the R&D results of USAF scientific and technical programs. Emphasis was placed on AFSCR 80-20 and especially compliance with the 180 day maximum time limit from date of technical completion to distribution of a report. The limits of security and AFR 80-45 as it relates to unclassified military information was also discussed. The need to work with the engineers and scientists from the time an effort was conceived and work begun in a laboratory or on contract was also highlighted. Mr. Zimmerman made a key point of advising the STINFO policy makers to be certain that they worked with the Data Management Officers within their organizations to insure that the contract data item requirements were specific in regard to what and how much technical data was deliverable as a contract item. In conclusion, a brief discussion was held outlining the importance of broad distribution of unclassified technical reports within the limits of security and military value. The procedures to obtain positive information about an addressees security clearance level and established need-to-know was another problem identified for the STINFO people to provide their expertise. Overall the paper discussed a cradle to grave look at technical report processing to the attendees. Copies of the viewgraphs are attached for information purposes.



### **PROCESSING**

and

### PREPARATION

of

## TECHNICAL REPORTS

### THE LAW

RESPONSIBILITY OF THE FEDERAL GOVERNMENT TO PROMOTE PROMPT, THE NATIONAL SCIENCE AND TECHNOLOGY POLICY, ORGANIZATION AND SEC DECLARATION OF POLICY ADVOCATES "-EFFECTIVE MANAGEMENT AND DISSEMINATION OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION." EXISTING DOD 5200 SERIES AND AFR 80-40 SERIES IMPLEMENT AND TECHNOLOGICAL INFORMATION BY -APPROPRIATE METHODS. PRIORITIES ACT OF 1976, 42 USC 6602, PUBLIC LAW 94-282, EFFECTIVE RELIABLE AND SYSTEMATIC TRANSFER OF SCIENTIFIC IMPLEMENTATION OF THIS POLICY DECLARES THAT "-IT IS A PROVISIONS OF PL 94-282. 2

TABLE 1

R U	• А	В
L E	Actions	Responsibility of
1	Manage the AFSC Technical Report Program as an integral part of the AFSC RDT&E Program.	HQ AFSC/DL
2	Appoint a STINFO officer to help monitor the AFSC Technical Report Program.	
3	Make sure reports are weitten, received, published, and initially distributed, including—  a. Setting up procedures for making sure the results of the RDT&E projects are documented in technical reports, as prescribed by this regulation and by Air Force 80-series regulations. These procedures will include steps for—  (1) Planning at least one technical report for each RDT&E project, regardless of whether the results are conclusive and the work is done in-house, by grant, or by contract.  (2) Identifying during the planning phase of a proposed project what technical information needs to be reported and specifying for contractor the data they must deliver according to AFR 310-1 and AFSCR 310-1.  b. Setting up a centralized section to edit and process the technical reports. Normally, this section will fit organizationally under the AFSC-host or -support organization.  c. Making sure technical reports comply with AFRs 6-1 and 80-45, MIL-STD-847A, and this regulation.  d. Setting up procedures for—  (1) Handling contractor-imposed legends that restrict the report's distribution.  (2) Reviewing and approving all draft reports before camera-ready copies are prepared.  e. Scheduling technical reports through distribution before they are written.  f. Setting up and keeping a suspense system that will track and record the progress of a technical report from before the due date on the original draft through printing.	The responsible AFSC organization
4	For reports in the DTIC that have been superseded, set up procedures to withdraw the reports from distribution.	• •
5	Give HQ AFSC/DLXL a copy of the supplement to this regulation.	

### STINFO DIRECTIVES

- \* AFR 80-40
- \* MIL-STD-847A
- \* AFSCR 80-20
- \* AFR 80-45
- \* AFR 190-12
- \* AFR 190-17
- \* DODI 5200.1R (AFR 205-1)
- \* INDUSTRIAL SECURITY MANUAL

### MIL-STD-847A

- \* FRONT COVER
- \* INSIDE FRONT COVER

  APPROVAL SPECIAL NOTICES
- \* DD 1473 SUMMARY PREFACE
- \* TABLE OF CONTENTS
  LIST OF ILLUSTRATIONS
  LIST OF TABLES
- \* TEXT
  REFERENCES
  BIBLIOGRAPHY
  APPENDICES
  GLOSSARY OF TERMS
  LIST OF ABBREVIATIONS/SYMBOLS
  INDEX
- \* DISTRIBUTION LIST
- \* BACK COVER

### KINDS OF TECH REPORTS

### \* INTERIM REPORT

(NOT ROUTINE MUST BE IMPORTANT ENOUGH TO RATE TR DESIGNATION)

\* FINAL REPORT

(DEFINITIVE - WRAPS UP WHOLE EFFORT)

IN PREFACE OR FOREWORD REPORTING PATTERN CAN BE INDICATED; volumes or parts

### QUALITY OF TR COPY

ORIGINAL COPY — MANDATORY

PROBLEMS OF REPRODUCED MASTERS

MACHINE/COMPUTER PRODUCED COPY

PHOTOGRAPHS

ILLUSTRATIONS

### FORMAT OF TR

ARABIC NUMBERING

BEST TECHNICAL ORGANIZATION

MARKING CLASSIFIED

COVER PREPARATION

### CONTRACTOR REPORTS

- \* CONTRACT DATA ITEM DESCRIPTION
- \* STINFO TRACKING
- \* MANDATORY PUBLICATION

### IN-HOUSE

- \* FORMAT
- \* QUALITY
- \* PRINTED COPY

### THE PARTNER METHOD OF REPORT WRITING MEANS:

THE AUTHOR IS RESPONSIBLE FOR TECHNICAL ACCURACY

THE *EDITOR* IS RESPONSIBLE FOR EDITORIAL ACCURACY

- \* YOU WANT IT RIGHT
- \* WE WANT IT CLEAR

### WHY A LIST OF SYMBOLS?

IF HAND-WRITTEN SYMBOLS AND LETTERS WHICH THEY CLOSELY RESEMBLE POSE A PROBLEM. PARTIAL SOLUTION:

### A LIST OF SYMBOLS

a alpha aaa «

B beta B

y gamma y or va

s delta d a

n eta n

K K kappa w u

μ mu w

v nu vee

p rho p

os sigma oc

T tau rorr

v upsilon vee of u

w omega w

also

subscript or superscript

### CLASSIFIED REPORTS

- \* MARKING (DODI 5200.1R)
- \* EXTRACTS OF CLASSIFIED INFO
- \* INTELLIGENCE INFO

G٠

PRINTING

AFR 6-1

DISTRIBUTION

AFR 80-45

### ABSTRACT OF MS. JACKIE DOBEN'S PRESENTATION

One of the responsibilities of AFSC STINFOs is to track all final R&D technical reports from a few months prior to the end of the effort through the printed copy.

In AFWAL, which consists of the Avionics Lab, Aero Propulsion Lab, Materials Lab and Flight Dynamics Lab, we utilize the MASIS data base to start our tracking. The acronym MASIS stands for Management and Scientific Information System.

The MASIS provides us with the engineer's name and symbol, work unit number, contract number (if applicable), and the final product due date - the final product being the technical report. If your organization does not have access to a system such as MASIS you should be able to obtain this information from your operations or management officer.

Once we acquire the necessary information we send a draft report reminder to the engineer approximately four months prior to the final product due date. If the engineer does not respond to our reminders, we send delinquent draft report notices to the next higher echelon.

When we finally receive the draft report we forward it to the Public Affairs Office, if appropriate, and then to our editing group. If the report is an in-house report, the editing group sends it to the tech report preparation group where it is finalized. After the report is finalized and reviewed by the engineer, we apply the necessary forms and send it to the print shop and from there the printed copies go to the distribution section for mailing.

A contractor report is handled approximately the same as an in-house report with a few exceptions. Instead of being finalized internally it is returned to the contractor for finalization or, what we term, a camera-ready version. Camera-ready refers to an original manuscript with original line drawings and photos that are glossy prints.

This whole process - from the engineer, to public affairs (if appropriate), to editing, to report preparation (or return to the contractor for a camera-ready), to printing and distribution - should take no more than six months.

### AFWAL-TR-82-0002

Our 1,000 reports a year are not always completed in a 6 months time period. However, on the average, most of them meet the deadline.

Our tracking files are all computerized so we can tell how long a report is in any of the tracking stages.

We also have computerized distribution lists, mailing labels and AF Forms 310 for SECRET reports.

In the future we plan to have whole letters computerized and not just specific data such as the engineer's name, symbol and end product due date.

We try not to overburden our engineers with tons of paperwork. However, there are a few rules which we insist the engineer follow.

- (1) The engineer must state, in writing, a reason for excluding DTIC from the report distribution list.
- (2) The engineer must sign an approval letter for the printing of the technical reports.
- (3) The engineer must sign a certificate certifying all addressees on the classified technical report distribution list have a clearance and need-to-know.

GIDEP/DPCCP
MR. ROBERT LOUGH

### GIDEP

WHAT IS IT

HOW DOES IT FUNCTION

WHO BELONGS

### WHAT IS IT

**FEDB** 

**EDB** 

**MDB** 

**RMDB** 

**UDRs** 

ROSTER (WORLD WIDE)

HARD COPY

**INDEXES** 

MICRO-FILM AND APERTURE CARDS

A COMMUNICATION SYSTEM

PHILOSOPHY OF IT

### HOW DOES IT FUNCTION TYPES:

VOLUNTARY MANDATORY

### **OPERATIONS CENTER:**

COLLECT

**EDIT** 

SORT

REPRODUCE

**MICROFORM** 

DISTRIBUTE(OVER 1000 ADDRESSES

### OTHER:

**NEWSLETTERS** 

**INDEXES** 

P&P MANUAL

**HANDBOOK** 

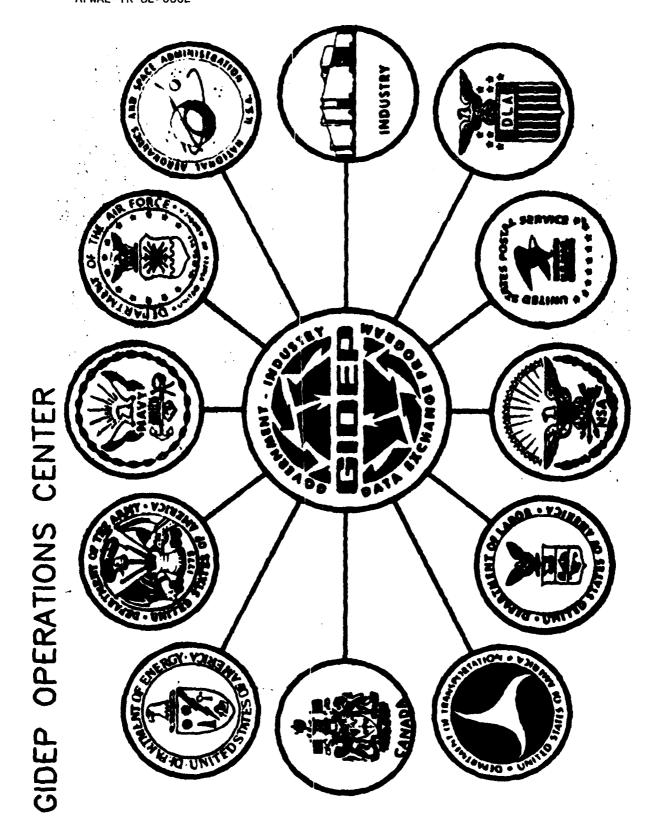
REMOTE QUERY CAPABILITY

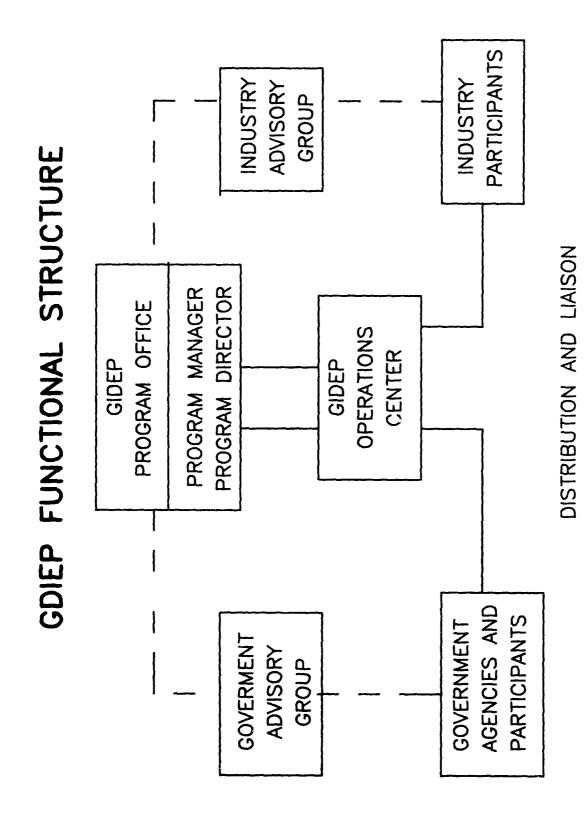
WORKSHOP, OTHER TRAINING

**TELEPHONE** 

KNOWING AND MEETING THOSE INVOLVED

(NOTE: IT IS YOUR TOOL; USE IT)





### JOINING GIDEP

WHO SHOULD

WHY

BENEFITS

HOW

WHAT'S REQUIRED

WHERE IN ORGANIZATION

COST

POSTAGE

TELEPHONE

EQUIPMENT

YOU

### THE WORKSHOP

WHO COMES
WHO CONDUCTS IT
WHY COME—AND WHY RETURN
PHYSICAL LAYOUT
WHAT TO LOOK FOR AND WHAT TO DO
YOUR ROLE AT THE WORKSHOP
REGISTRATION FEE
HOSTS AND EXHIBITS
LOCATION AND FREQUENCY
SHOULD YOUR BOSS ATTEND

### **PURPOSE**

LEARN AS MUCH AS YOU CAN FIND SOLUTIONS OT INCREASE YOUR BENEFITS PROVIDE RECOMMENDATIONS

### OFFICE SUPPORT TO THE REPRESENTATIVE OBLIGATIONS

- 1. OFFICE SIZE AND SHELVING
- 2. OFFICE INSTRUCTION AND AUTHORITY
  - A. L.D.TELEPHONE
  - B. SIGN LETTERS TO COORDINATE ALERTS
  - C. SIGN MATERIAL TO GIDEP
  - D. APPROVAL TO SEND DATA TO GIDEP
  - E. RECOGNITION OF TIME AWAY FROM DESK
- F. ATTEND WORKSHOP
- 3. MICROFILM READER PRINTER
- 4. PREPARATION OF TRAINING MATERIALS
- 5. ACCESS TO TRAINING ROOM
- 6. USE OF PROJECTOR FOR GIDEP FILM
- 7. STORAGE OF MICROFILM
- 8. SUPPORT TO BRIEF ENGINEERS, ETC
- 9. R.T. ACCESS
- 10. FREEDOM TO PLACE ARTICLES IN COMPANY NEWSPAPER
- 11. ACCESS TO DATA FOR SUBMITTAL
- 12. AUTHORITY TO RELEASE DATA(CRITERIA)

### THE REPRESENTATIVE'S FUNCTION ON THE JOB

#### RESPONSIBILITIES AND DUTIES

TO THE ORGANIZATION

TO GIDEP

### REPRESENTATIVE'S FUNCTION ON THE JOB

#### TO THE INSTALLATION:

ADMINISTRATIVE APPROVAL(OI)
OFFICE ORGANIZATION
SALESMANSHIP AND TRAINING
PREPARATION OF DATA FOR GIDEP
COLLECTION OF BENEFITS
ADVISING MANAGEMENT(BRIEFINGS)
SUPPORT YOUR USERS
LEARNING ABOUT YOUR COMPANY
ACHIEVING BENEFITS ABOVE COST
ESTABLISHING UNIT MONITORS(CONTACTS)
DECISION: WHO NEEDS WHAT
GETTING DATA FOR COMPANY USERS

(YOU WON'T NEED A DESK)
(YOU WILL NEED A TELEPHONE
AND L.D.PERMISSION)
(YOU MUST BE SUPERMAN)
(YOU MAY WORK 12 HOURS A DAY)
(YOU MUST BE ENTHUSIASTIC)

#### TO GIDEP

- 1.UTILIZATION REPORT
- 2. EACH DATA BANK, SUBMITTALS, BENEFITS
- 3. RESPONDING TO UDRs
- 4. KEEPING ROSTER UPDATED; NAMES ADDRESSES, TELEPHONE NUMBER, ZIP
- 5. CHANGING PARTICIPATION IN DATA BANKS
- 6. SUGGESTIONS FOR BETTER SUPPORT
- 7. KEEPING KNOWLEDGEABLE
- 8. KNOWING YOUR COMPANY

#### OTHER MATTERS

- 1. WHERE SHOULD GIDEP REPRESENTATIVE BE LOCATED
  - A. QC
  - B. SAFETY
  - C. DESIGN ENGINEERING
  - D. METROLOGY
  - E. TEST LABORATORY
  - F. PARTS STORAGE
  - G. PROCUREMENT/PURCHASING
  - H. PARTS CONTROL
  - I. OPERATIONS RESEARCH
  - J. COMPANY MANAGEMENT OFFICE
  - K. CUSTOMER COMPLAINT DEPARTMENT COULD BE 3-4 REPRESENTATIVES
- 2. PREPARING LIST OF DOs AND DON'Ts

	PREPARING	DISTRIBUTING	INDEX
ALERTs	X	X	X
METROLOGY		X	X
UDRs	X	X	
DEFINITIONS	X	X	
EDB	X	X	X
RMDB	X	X	Х

GENERIC CODE, PROPRIETARY, CLASSIFIED, FOREIGN RESTRICTIONS, ADVERTISING

#### HOW TO GET YOUR PROGRAM GOING

1. DEVELOPE PERSONAL RELATIONSHIP WITH:

QUALITY

PARTS STORAGE

TEST LAB

DESIGN ENGINEERS

SAFETY ENGINEERS

PARTS BUYERS

SPECIFICATION ENGINEERS

- 2. BRIEF THEM
- 3. LEAVE HANDOUTS BEHIND
  GIDEP WILL FURNISH HANDOUTS
- 4. GET GIDEP LISTED IN THE PHONE BOOK
- 5. STRESS THE BENEFITS
- 6. PUBLICIZE THE BENEFITS TO WHOLE COMPANY
- 7. OFFER YOUR ASSISTANCE IN PREPARING DD FORMS
- 8. WRITE INSTRUCTIONS ON FINDING DATA FOR USE
- 9. WHEN UNSURE, CALL THE OPS CENTER, IAG, OR GAG OTHER REPS WILL HELP
- 10. ASK ABOUT VISITING ANOTHER REPRESENTATIVE IN A COMPARABLE TYPE COMPANY OR ORGANIZATION

## PRIMARY OBJECTIVES

REDUCE OR ELMINATE DUPLICATE EXPENDITURES

INCREASE SYSTEM QUALITY AND RELIABILITY BY PROVIDING RELIABLE FOR TESTING PARTS AND MATERIALS

PROVIDE ADVANCE NOTIFICATION OF POSSIBLE PART/COMPONENT **NFORMATION ON PARTS, MATERIALS AND PROCESSES** 

FAILURES AND POTENTIAL PROBLEM AREAS

DURING RESEARCH,DESIGN,DEVELOPMENT,AND PRODUCTION OF EQUIPMENT PROVIDE A SOURCE OF PARTS/MATERIALS TEST DATA FOR USE

PROVIDE A COMMUNICATIONS NETWORK AMONG TECHNICAL

PERSONNEL WORKING ON RELATED PROBLEMS

\*IDENTIFY ALTERNATE MANUFACTURING SOURCES FOR PARTS/MATERIALS **PROCUREMENT** 

REDUCE OR ELIMINATE DUPLICATE EXPENDITURES FOR PREPARATION OF TEST EQUIPMENT CALIBRATION PROCEDURES

\*ACCELERATE PARTS SPECIFICATION WRITING AND TEST PLANNING

\*INCREASE STANDARDIZATION OF PARTS AND PARTS TESTING

\*ENABLE MORE REALISTIC BID PROPOSALS TO BE SUBMITTED

#### DATA BANKS OF GIDEP

WHAT IS IN EACH BANK

WHAT DOES REPRESENTATIVE GET

#### DATA BANKS OF GIDEP

- \* FAILURE EXPERIENCE DATA BANK
  - \* ALERTS
  - \*SAF-ALERTS
- \* ENGINEERING DATA BANK
  - \* TEST REPORTS
  - \* ENGINEERING STUDIES
  - \* TECHNICAL DATA
  - \* URGENT DATA REQUESTS & REPLIES
  - \* ESRO
- \* FAILURE RATE DATA BANK
- \* METROLOGY DATA BANK
- \* MIS DATA BANK
- \* ADMIT
- \* GIDEP MEMBERSHIP ROSTER

# FAILURE EXPERIENCE DATA INTERCHANGE

GENERATED WHENEVER SIGNIFICANT PROBLEMS ARE IDENTIFIED ON GIDEP ALERTS, CONSISTING OF OBJECTIVE FAILURE INFORMATION PARTS AND MATERIALS

GIDEP SAFE-ALERTS, CONSISTING OF SAFETY RELATED PROBLEMS CONCERNING PARTS, COMPONENTS, MATERIALS, EQUIPMENT OR PERSONNEL FAILURE EXPERIENCE DATA (PROBLEM INFORMATION), DATA WHICH DID NOT MEET THE ALERT/SAFE-ALERT CRITERIA FAILURE ANALYSIS REPORTS ON PARTS, COMPONENTS, MATERIALS AND EQUIPMENT \* AIR FORCE DEFECTIVE PARTS AND COMPONENTS CONTROL PROGRAM (DPCCP) DATA

#### ENGINEERING DATA INTERCHANGE

- \* ENGINEERING, EVALUATION AND QUALIFICATION TEST REPORTS
- \* NON-STANDARD PARTS JUSTIFICATION DATA
- \* PARTS/MATERIALS PROCUREMENT SPECIFICATIONS
- \* MANUFACTURING PROCESSES
- \* RELATED ENGINEERING DATA ON PARTS/MATERIALS TESTING
- \* ENGINEERING METHODOLOGY AND TECHNIQUES
- \* EXACT (EUROPEAN) TEST REPORTS

### RELIABILITY—MAINTAINABILITY DATA INTERCHANGE

\* FAILURE RATE, FAILURE MODE, REPLACEMENT RATE AND MEAN—REPAIR—TIME DATA ON PARTS, COMPONENTS, ASSEMBLIES, EQUIPMENTS, SUBSYSTEMS AND SYSTEMS

#### FROM:

- \* FIELD OPERATIONAL EXPERIENCE
- \* LABORATORY ACCELERATED LIFE TESTING
- \* RELIABILITY/MAINTAINABILITY DEMON-STRATION TESTS
- \* MANUFACTURERS (VENDORS)
- \* REPORTS RELATED TO R&M METHODS, TECHNIQUES AND PROCEDURES SUCH AS:
  - \* MATH MODELS
  - \* PREDICTION TECHNIQUES
  - \* RELIABILITY GROWTH PLANS
  - \* FMEAs

#### URGENT DATA REQUEST

#### THE URGENT DATA REQUEST (UDR):

- \* IS USED TO TRANSMIT AN INFORMAL REQUEST TO ALL GIDEP PARTICIPANTS FOR SPECIFIC PART/COMPONENT OR MATERIAL RELATED INFORMATION WHICH IS NOT AVAILABLE WITHIN CURRENT GIDEP DATA
- \* MAY BE USED TO OBTAIN THE FOLLOWING TYPES OF INFORMATION:
  - \* QUALIFICATION TEST DATA
  - \* COMPARISON TEST DATA
  - \* SOURCES OF INFORMATION FOR DEGRADATION DATA
  - \* ENVIRONMENTAL OR FUNCTIONAL TEST DATA
  - \* ALTERNATE VENDOR SOURCES
  - \* FAILURE RATE DATA AND LIFE TEST DATA
  - \* SPACE AND NUCLEAR RADIATION EFFECTS
  - \* TEST METHODS
  - \* FAILURE ANALYSIS INFORMATION

#### UDR PROCESSING PROCEDURE

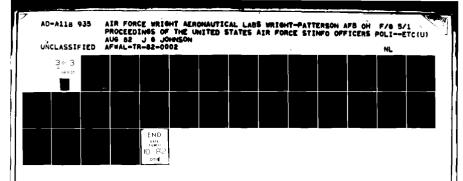
- \* PARTICIPANT REQUIRING INFORMATION COMPLETES UDR FORM
- \* PARTICIPANT SENDS UDR FORM TO THE GIDEP ADMINISTRATION OFFICE
- \* AO DUPLICATES AND TRANSMITS A COPY TO ALL PARTICIPANTS WITHIN 24 HOURS
- \* PARTICIPANTS HAVING INFORMATION DESIRED CONTACT REQUESTOR

# GIDEP DATA UTILIZATION

FORM OF INFORMATION	GROUPS UTILIZING	VALUE OF INFORMATION
TECHNICAL INFORMATION	<ul> <li>ENGINEERING—DESIGN, EVALUATION         "A" PROCESS AND MATERIAL         CONTROL RESEARCH AND         DEVELOPMENT</li> <li>LIBRARY TECHNICAL STAFF</li> <li>MANUFACTURING</li> <li>PROPOSAL OR CONTRACTS</li> </ul>	* PROVIDES EXPERT BACKGROUND FOR SIMILAR PROBLEMS, AVIODS REDUN—DANT EFFORT, ASSISTS IN STATE—OF—THE ART UPDATE, AID IN TECHNOLOGY UTILIZATION, ELIMINATION OF EXCESSIVE OR COSTLY RESEARCH AND DEVELOPMENT PROGRAMS
PART EVALUATION AND TESTING	* ENGINEERING-DESIGN, EVALUATION "B" MATERIAL CONTROL, NON- STD PART JUSTIFICATION, MAINTENANCE LIASON * PURCHASING * QUALITY ASSURANCE * RELIABILITY	* AVOIDS UTILIZATION OF MARGINAL OR POTENTIALLY BAD COMPONENTS OR PARTS, AVOIDS REDUNDANCY OF TESTING (SAVES MANPOWER, MATERIAL, TIME), ELIMINATION OF EXCESSIVE VENDOR TESTS, SHOWS AREA OF COMPONENT SPECIFICATION REQUIRING GREATEST CONTROL, SOURCE OF HISTORICAL RELIABILITY DATA ON DEVICE OPERATION, AIDS IN STANDARDIZATION OF TEST PROCEDURES, DEVELOP MORE RELIABLE PART SCREENING TECHNIQUES
PARTS JUSTIFICATION PACKAGE	* ENGINEERING—COMPONENT SPECIFI— CATION, PART EVALUATION, NON—STANDARD PART JUSTIFICATION, CONFIGURATION CONTROL, ENVIRONMENTAL * RELIABILITY AND QUALITY ASSURANCE	* PROVIDES PROOF OF APPROVAL OF NON-STANDARD PARTS BY GOVERNMENT, IMPROVES STANDARDS, PROVIDES OPPORTUNITY TO AVOID DUPLICATION OF EFFORT AND REDUNDANCY OF TESTING

# GIDEP DATA UTILIZATION

STANDARD OR PRE— FERRED PARTS LIST	<ul> <li>ENGINEERING—DESIGN, COMPO- NENT SPECIFICATION, CONFIGURATION CONTROL</li> <li>PURCHASING</li> </ul>	* ASSISTS IN SELECTION OF PARTS MOST UNIVERSALLY USED, ALLOWS COMPARISON OF STANDARD PART USAGE, AIDS STANDARDIZATION
CALIBRATION PRO-	* METROLOGY QUALITY ASSURANCE	* ALLOWS VARIETY OF TEST SELECTION, AIDS IN DISSEMINATION OF IMPROVED TECHNIQUES FOR MORE ACCURATE CALIBRATION METHODS, AVOIDS REDUNDANCY OF PREPARING CALIBRATION PROCEDURE DOCUMENTATION, ALLOWS UTILIZATION OF EXISTING TEST EQUIPMENT
FAILURE ANALYSIS INFORMATION ALERTS	* ENGINEERING—DESIGN, COMPO- NENT, PART EVALUATION, CONFIGURATION, ENVIRON— MENTAL, LIASON, MAINTENANCE * MANUFACTURING—PRODUCTION * PURCHASING * QUALITY ASSURANCE * RELIABILITY	* ALLOWS FAST DISSEMINATION OF POTENTIAL PART PROBLEM; AVOIDS EXTENSIVE FAILURES AND LOSS OF TIME, EQUIPMENT OR PERSONNEL; MOTIVATES EARLY RESOLUTION OF CORRECTIVE MEASURES FOR PROBLEM PARTS
SAFE-ALERTS	<ul> <li>ENGINEERING—SAFETY, MATERIAL CONTROL, PROCESS CONTROL</li> <li>MANUFACTURING—PROCESSING</li> </ul>	* ELIMINATION OF HAZARDOUS CONDITIONS
URGENT DATA REQUESTS	* ENGINEERING-ALL SEGMENTS * MANUFACTURING-ALL SEG- MENTS * QUALITY ASSURANCE * RELIABILITY	* PROVIDES ASSISTANCE FROM EXTER- NAL SOURCES FOR MAJOR PART, COMPONENT, PROCESSING OR MATE- RIAL PROBLEM, ALLOWS COMMUNI- CATION WITH EXPERTS IN FIELD WHERE PROBLEM EXIST



#### GOVERNMENT INDUSTRY DATA EXCHANGE PROGRAM

BY ROBERT L. LOUGH, AV 787-2257

Good Morning Ladies and Gentlemen, STINFO Officers, and GIDEP Representatives.

My briefing today is somewhat long, and quite detailed, because many of you are now enrolled in GIDEP as a representative, but still not sure of what is expected of you. Others should be enrolled by now but have not done so.

I plan to talk about: What GIDEP is, how it functions, who belongs; the who, why, how, what and where of joining, the cost involved, the workshop and your attendance, what your office must provide for you to be a representative, your responsibilities to your office and to GIDEP, how to get the program going, the objectives of GIDEP, what is in each data bank of GIDEP, what you the representative will get upon application, and the general uses of GIDEP data.

My objective in this briefing is to provide sufficient detailed information, not a general sales pitch, for you to begin functioning. Questions are welcome at any time.

GIDEP consists of four (4) data banks: Failure Experience Data Bank (ALERTS, Safe ALERTS, and Failure Analysis), Engineering Data Bank (test reports, studies, manufacturing processes, company specifications, and nonstandard part justification packages), Metrology Data Bank (95% of all U.S. and Canada calibration procedures), and the Reliability and Maintainability Data Bank (Failure mode, laboratory accelerated tests, reliability methodology). It has two information services: the Urgent Data Request (UDR- DD Form 2002) which goes to 1000 addressees on which any question can be asked (replies are voluntary), and the Metrology information service (a consumers index of automatic test equipment). A roster is published 2-3 times per year which lists the name, address, and telephone number of all GIDEP representatives. This roster is extremely valuable for obtaining information from a company or government installation.



The data furnished the representative by GIDEP consists of the following:

FEDB - Hard copy and microfiche, mailed daily.

EDB - Hard copy index and microfilm, mailed periodically.

RMDB - Hard copy index and hard copy report (on request).

MDB - Hard copy index and microfilm.

Note: The Operations Center will query the data banks and mail reports. GIDEP is a communication system wherein members submit completed reports, studies, and data, and have access to that of others. Objective being to avoid the costs of duplication of effort.

GIDEP is both voluntary and mandatory. When a directive says we will belong it is mandatory. Companies under contract are equally mandatory. GIDEP is Joint Logistic Commander sponsored and funded.

The GIDEP Operations Center collects, edits, sorts, reproduces, microforms, and distributes data to over 1000 addresses. Many organizations and companies belong to all four (4) data banks. Others belong to only one (1). Some are "A" participants which means they get everything in the data bank. "B" participants get the indexes and must request copies of the reports.

Other information received from GIDEP includes: Newsletters (both GIDEP and Metrology - bi-monthly), indexes, the Policy and Procedures Manual, the GIDEP representatives' handbook, and the telephone roster book. Naturally, all representatives receive UDRs and occasional survey letters. GIDEP provides remote terminal query capability, an annual workshop, will send personnel to train on site, and furnish various types of handouts. Perhaps the greatest benefit of the workshop is knowing and meeting those involved, not only from the Operations Center, but throughout the government and industrial sector. Learning from others, like in this conference, is a real benefit. GIDEP is your tool to help your labs. Learn all you can to become efficient and proficient to help reduce DOD costs.

GIDEP has membership of 14 government agencies, Canada, EXACT (Exchange of Authenticated Electron Component Test Data (European)), and 500 industrial companies. Approximately 15 commercial laboratories and 20 universities belong.

The GIDEP functional structure is made up as follows: The GIDEP Program Manager, Capt Finn, HQ NAVMAT; the GIDEP Operations Center, Corona, California 91720 (complete address), the Government Advisory Group (Mr William Womack, SDDE), represents HQ AFSC and the Industry Advisory Group. Most important are the 700 representatives that input and use the data. The advisory groups serve to assure your problems and questions are properly resolved.

Since most of you have recently joined GIDEP, or are obligated to do so, this chart was added to help cover the types of questions and problems that arise. Anyone that buys hardware from some company can join. For 10 years GIDEP consisted of 10 aerospace companies, which benefited from the sharing of data. In the last 10 years, membership has increased 70 fold, with the Air Force and NASA leading the way in the government sector. The five ALCs reaped \$3-1/4 million in cost avoidance in the first six months of this year. Benefits are proportional to the time devoted. You, the representative, must provide training and sell the program to the engineers so that they are aware of it, and request from you data from it.

How to join is simple, yet frustrating. A letter to GIDEP stating which data banks and A or B participant is required. Also, provide the identity of your microfilm reader. If you have a remote terminal you can obtain that service: 300 baud, even parity. With your application send two engineering reports.

Once enrolled, you should properly organize your materials for rapid access and train a backup for use during your absence. GIDEP requires an end of year cost avoidance report. Most representatives use a log to record usage, and to follow-up with the report requestors. HQ AFSC/SDDE, AFSCR 800-20, requires a quarterly report of utilization and cost avoidance. This will be changed to semiannual during 1982.

In 1976, AFLC/AFSCR 800-20 required the labs to participate in GIDEP. Nothing happened, so in 1980 the STINFO Officers were selected to be the GIDEP representatives. This selection was based on their central location in the labs and their access to all reports.

Cost of participating in GIDEP often arises as a legitimate question of management. Actual costs involve postage, a semiannual utilization report, a microfilm storage tray, and a microfilm reader/printer. A remote terminal is optional. The real cost element is you, your time to organize and maintain your files, disseminate information, and offer training. The better job you do, the more benefit your lab will achieve. GIDEP offers an award to the outstanding participant. ASD, RADC, and 00-ALC have won it in the past nine years. You can win it. Data submittals count as much as cost avoidance.

The annual GIDEP workshop always raises questions from your boss on the need for your attendance. It, also, poses uncertainty in your mind when you have never been to one. AFSCR 800-20 requires attendance by the representative. It is programmed travel. Approximately 50% of the representatives attend each year. It is conducted by the Government and Industry Advisory Groups. The reasons for attending are numerous, but most significant are: Resolve your problems, express your recommendations, discuss ideas, obtain answers from others who have encountered similar problems, learn who is involved, find out where and how to become more proficient, and learn of new things on the horizon. Annual attendance is significant. Every year there are new developments and interests.

The workshop layout is planned to provide a new and old representative session the first morning. Then the four data banks meet in separate rooms for four half days. The final afternoon is a wrap-up, with the significant problems answered. All through the workshop remote terminal training is offered. Equally, Operations Center and Advisory Group members are available for advice.

What to look for and what to do are significant, because every year several new representatives seem to get lost. Before departure, plan your activities in terms of which data banks to attend and what people you wish to see. Prepare a list of questions to ask. After checking into your

room, visit the registration desk and pick up a map of the hotel so that you know what floors and what conference rooms the data banks seminars are in. Also, obtain the room numbers of the GIDEP hospitality suites and leave messages at the desk for people to call you if they have not yet arrived.

Your role at the workshop is to learn everything you can and to be <u>heard</u> on your problems so that they can be addressed. Your role is to improve the GIDEP for everyone's benefit, especially yours.

The registration covers the use of the meeting rooms, reproduction costs, microphones, and incidentals.

Each workshop is hosted by an industrial company. This means that company makes all hotel arrangements, such as, room cost, menus, meeting times, remote hookups, advertising, registration material, etc. Various companies pay to provide hallway exhibits.

The workshops are held in Oct or Nov each year. The location is chosen based on a division of the continental U.S. into three parts; West, Central, and East. The 1981 workshop was in Palo Alto. The 1982 workshop will be in Chicago, about 7 Nov; the 1983 workshop will be in Nashville (East). City and hotel depend on available facilities and costs.

The question is often asked, "Should your boss attend?" The answer is yes, but not in lieu of the representative. The AFSCR is emphatic about your attendance. Should your boss attend with you, the boss will get a better appreciation of the whole program.

The workshop purposes are to: help you learn to do your job better, improve your proficiency in getting data for users, improve your benefits from participation, and to improve the program for your benefit.

In order for a GIDEP representative to be able to function, the office must provide certain types of support. Obligations of the Office to the Representative include: adequate office size and storage facilities, an internal operating instruction, permission to call on AUTOVON or WATTS, sign letters to coordinate ALERTs, send material to GIDEP (most reports can be sent with a handwritten note to let the Ops Ctr know you sent it),

authority to send data to GIDEP, recognition of time away from your desk (looking up material for a request or training), and to attend the workshop.

Even though AFSCR 800-20 prescribes these things, without the bosses approval the compliance can be difficult. Your office must, also, provide: access to a microfilm viewer/printer, time to prepare training materials and conduct training, a room for training, use of a projector for training films, storage for the microfilm cassettes, support to brief engineers, remote terminal access (if warranted), freedom to place articles in newsletters, access to data for submittal to GIDEP, and authority to release it.

The GIDEP representatives' function on the job is twofold; first, to the organization, and second, to GIDEP. The detailed duties of the representative to the organization include: preparing a local operating instruction to cover the complete organization, provide training and salesmanship, prepare data for GIDEP (ALERT), collect the cost avoidances and statements of benefit, brief management on the program, support data users, carn about your organization to be more proficient, put forth sufficient effort that benefits exceed costs, establish branch monitors or contacts, when warranted, due to size; make adequate decisions concerning who gets what, and obtain data for users by researching the data banks, telephoning the Operations Center, or generating a UDR.

The obligation to GIDEP includes: submitting the anual cost avoidance report; for each data bank maintain a record of submittals and benefits, responding to UDRs, if able; keeping the roster updated with your name, symbol, telephone number change, etc; changing the participation in the data banks promptly, providing suggestions for improving support, keeping knowledgeable of the latest developments in GIDEP and your organization which GIDEP could support, and developing a knowledge of your laboratory so that requests for data can be more readily found.

Often new representatives have difficulty getting their GIDEP program started. This chart provides a brief outline of key points. Briefly stated these are: learn who does what in each office (their needs for

data), brief them on GIDEP or show them the GIDEP film, present them with handouts which the Operations Center will furnish, list your office under GIDEP in the phone book, in the briefing stress the benefits to your lab and to the Air Force, publicize the benefits derived (articles in the ASD Newsletter or Skywriter), offer your assistance in preparing ALERTs and UDRs (other DD forms aren't necessary unless the engineer wants a summary for the file), write instructions for finding data for use during your absence. If unsure about something contact William Womack, SDDE, AV 858-3316, or Robert Lough, AFLC/LOEP, AV 787-2257, or telephone or visit another local GIDEP representative.

The primary objectives of GIDEP are:

- 1. To release or eliminate duplicate expenditures for testing parts and materials.
- 2. Increase system quality and reliability by providing reliable information on parts, materials, and processes.
- 3. Provide advance notification of possible part failure and potential problems.
- 4. Provide a source of parts/material test data for use during research, design, development, and production of equipment.
- 5. Provide a communications network among engineering personnel working on related problems.
  - 6. Identify alternate manufacturing sources.
  - 7. Accelerate parts specification writing and test planning.
  - 8. Increase standardization of parts and parts testing.

The final viewgraphs address what is in each data bank and what the GIDEP representative gets upon initial enrollment. Again, there are four basic data banks; Failure Experience consisting of ALERTs, Safe ALERTs, and Failure Analysis; Engineering Data Bank consisting of various reports on testing, studies, technical data, and responses to UDRs. It includes European data; Reliability and Maintainability Data Bank and the Metrology Data Bank. Other data includes the Metrology Information Services on test equipment, and the Aerospace Depot Maintenance Information technology which includes improved repair procedures developed by DOD, and the GIDEP Membership Roster.

#### AFWAL-TR-82-0002

The two charts on Utilization are offered to aid you in recognizing the various uses of the data. You will receive: a membership roster book, a policy and procedures manual, a GIDEP representatives handbook, copies of the DD Forms, handout materials, indexes of each data bank, the most recent newsletter, your GIDEP two-digit code which must go on all data submittals, and the microfilm and microfiche of the reports and studies.

#### CLOSING REMARKS

#### MR. WALTER BLADOS

Has this conference been worthwhile? From the conversations that I have had with many of you, I think we have had a worthwhile three days. I hope the evaluation questionnaire bears this out.

We have a hard job ahead of us. I think that you have got to sell our STINFO Program, be it to the users, the scientists, the engineers, or to the managers, not by belaboring the current sad state of STINFO; not by talking philosophy; but by demonstrating the services which you can provide to the user, and more specifically, you have got to, wherever possible, demonstrate in hard dollars and cents the value to him. I believe in the STINFO Program, I support it and will continue to support it. But, being in the Laboratory Management Division, I can name you six or eight or ten other areas that are probably of equal importance. I say that you have got to sell your people on its value.

I thank each of you individually who have come here. I am sure you must have learned at least a little something during these three days, even if you are an expert in the area. Let me ask you to report to the Chief or the Commander of the unit that you came from, and give him/her a clue that more and more STINFO requirements are going to be laid on him/her.

Again, I thank you all for coming, and hope to see you next year at the next STINFO Officers Conference.

#### STINFO WORKSHOP FEEDBACK

DIAGNOSTIC INTERPRETATIONS OF SLIPS FROM A WORKSHOP HELD NOV. 19, 1981 FOR HQ AFSC/DLXM, MEETING AT WRIGHT-PATTERSON AIR FORCE BASE, WITH SUGGESTIONS FOR A REMEDIAL SEMINAR

Workshop led by

John W. Demidovich, Ph.D., Professor of Management, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio 45433, Tel. 513-255-4549

Editorial processing, interpretations, and recommendations by C. C. Crawford, Ph.D., Emeritus Professor of Education, University of Southern California Management Consultant, 3832 Mt. Vernon Dr., Los Angeles, Ca 90008, Tel. 213-294-5015

A 40-person sample of STINFO program officers wrote about 1500 slips on troubles and remedies for STINFO people and those they serve. Their independent diagnoses of the program are so consistent as to be very convincing. They agreed quite well as to "where it hurts" and about many remedial needs. The major deficiencies add up to: a) Lack of a SYSTEM.
b) Lack of TRAINING. c) Lack of success or productivity of the mission.

Getting so many different but consistent specifics gives a quite clear idea of how the Crawford slip method which Demidovich used for the workshop can help to remedy some of the deficiencies. The idea of a seminar for that purpose is well supported by the workshop results. (See attachment 1 for details of that workshop.) First is an outline of the main diagnostic findings, then some thoughts about a remedial seminar.

#### A. DIAGNOSIS OF NEEDS AS REVEALED BY STINFO SLIPS

Target E, which asked for "STINFO problems in HOW TO language," brought out 40 persons' independent suggestions for the table of contents for a STINFO manual. Slip classification began there. Those HOW TO slips produced about 60 categories of need, each a potential chapter or section title for the manual. Into these 60, and into new ones that develop, went all the rest of the 1500 slips about troubles or remedies for both STINFO people and their customers. The result was about 87 categories of need.

That was very substantial STARTER for a training manual. But it was not good enough. It was still a bit miscellaneous and unmanageable.

It resembled 87 pieces of a jigsaw puzzle picture before they were put together. By grouping kindred categories the 87 became the 25 subproblems listed in Attachment 2. Those 25 are worded as 25 SUBTARGETS for future slip writing to penetrate deeper into the specifics. People can usually contribute about as much on each subproblem as they originally did on the whole. Subtargets were first in alphabetical rather than logical order for convenience in examining each independently on its own merits. Highlights of their meanings follow.

1. Priorities of needs as revealed by thickness of slip categories. Ten of the categories might be thought of as measures of the level of success of the mission as now operation. The other 12 were quite consistent with these but were more operational in nature. Volume of slip input to these 10 was measured by thickness in millimeters. While slips should not be counted like ballots as proof of validity, they do carry some opinion poll interest.

The over-all "image of success" is not good. It is one of drift, makeshift, low productivity, and discouragement. Thickest categories, in MILLIMETERS, were:

15mm System (quite fragmented)

- 15 Training (almost non-existent)
- 13 Marketing (not enough customers or patronage)
- 9 Speed (too slow)
- 8 Image (poor)
- 8 Guidance (working without directions)
- 8 Search for information (haphazard)
- 7 Customer service (poor)
- 6 Manuals (non-existent but needed)
- 6 Regulations (unhelpful)

Perhaps all 25 categories combined could be pretty well summed up as two major wishes: a) Better SYSTEM. b) Better TRAINING to work within it. These will be explained.

2. <u>Perceptions about the system</u>. The slip writers seemed to be defeated by the vastness, diversity, and complexity of the mission. So many kinds of people are hunting for so many kinds of needles in so many

kinds of haystacks (often OTHERS' haystacks) that even small successes seem like triumphs. Multiplicity of seekers and of sources has led to many different and overlapping efforts to render clearinghouse services. Add to this the many agencies that regulate the generation or flow or routing or release of data. (Example, security clearance.) The natural result is for each fragment of the system to do what it can under the circumstances, often in uncoordinated ways.

The slips about the system's deficiencies were many, about remedies few. They could do little more than WISH. Better remedial content can come by attacking the subproblems individually, also by getting slips from other parts of the system. Universities, industries, and government R&D and clearinghouse people all have potential to enrich the remedial content.

The slips contained little realism about the PURPOSES for which seekers seek data. Those might come from R&D people. There is also awareness that technical reports are not the whole of the needed data. But they see little way to get at the more elusive kinds. They see the need for a larger and more closely coordinated network, but have only a WISH that it might come to be. They fall back instead on a wish for TRAINING for better work under the fragmented system as it is.

- 3. Who needs training? Training for interchange of information needs to reach three types of trainees: a) Seekers of specific data.
  b) Source people who generate it. c) STINFO people who want to help both to interchange. These are INTERLOCKED in a mission of mutual aid on defense problems. They may be in different branches of the service, in different kinds of industries, or in research institutions. They depend on each other. But they soldom see each other. They may not even know each others' terminologies, constraints, or motivations. They have meager ways to communicate or share or request help from each other directly.
- 4. The possibility of SELF-TRAINING. Much, if not most, of the wished-for training could be self-training if only the CONTENT for it were assembled. "Nothing on paper" was a common complaint on slips. Only one slip mentioned the handbook published Aug. 3, 1981 and apparently not reaching many before the Nov. 19 workshop. ("Scientific and Technical

Information," Handbook, Volume 1, Department of the Air Force) Those 60 pages give some helpful perspective about agencies and functions that are trying to meet this need. There remains the need to address specifically the operational problems of seekers, sources, and transferrers as they try to work together. Manual material for any one of the three can help the others, and can be useful on a self-training basis.

- 5. The "push-pull" relationship. The STINFO people expressed a wish to MARKET their service, to reach more people. Many producers of new discoveries have a similar wish. University research grant people often complain about their outputs' lying on shelves. These sources and seekers need better ways to reach out to each other, to push and pull in unison. Somewhere in the Air Force or DOD are people who know much about how to improve that linkage. What they know, if put on slips, could enrich the content for the self-training manual.
- 6. Need for a multi-audience manual. R&D people are both seekers and sources of new discoveries. They both push and pull, but at different times. They switch roles as they advance their projects. What one needs today may have been discovered by another yesterday or last year. With some help they could all get their discoveries more widely used. The manual should address them in both roles, along with the STINFO people as intermediaries. They all need the same rationale for their interactions and changing roles.
- 7. Potential manual users. The proposed manual should reach more than just STINFO and R&D people in the Air Force. Army, Navy, and Air Force can all learn from each others' discoveries. So can people in industries, universities, and other civilian situations. Certainly the people in clearinghouse roles such as DTIC, DLSIE, NTIS, etc., could help us to find the ones most in need of being reached. Reaching them all can give all a common rationale and methodology for information exchange. Slips from them all can make the manual more useful for them all.

#### B. CRAWFORD SUMMATION AND INTERPRETATION OF NEEDS

Putting the subtargets into a classified outline for a possible manual strengthened and sharpened some of my initial impressions. Here is

a condensed summary of my diagnostic interpretations after structuring that outline. (See Attachment 2.)

- 1. Overhaul versus tinkering. A fundamental overhaul of the STINFO function seems justified by the perceptions of this 40-person sampling of its people. Their success level seems low, as measured by their lack of recognition, the quality of documents they handle, and their problems in getting and servicing customers. Their search process seems haphazard and accidental. Several clearinghouses work independently, with some duplication and little coordination. The whole effort seems to focus on DOCUMENTS and to ignore the vastly greater body of know-how that goes unrecorded when months or years of research get condensed into a few pages or lines in an abstract.
- 2. Release of information. The release function seems to be by hasty judgments made by persons who feel unqualified to judge what they are releasing. This troubles me greatly. The SECURITY factor in this release function is so tremendously important that I am ALARMED by the apparent laxness with which it seems to be handled. All I know about that laxness comes from the slips, but I am convinced that it merits close examination. I am especially concerned by what the slips do NOT say about security. There is more concern about "Statement A versus Statement B" than about the danger of security leaks. The level of AWARENESS of security seems too low. But there is much awareness of their own lack of qualifications for the decisions they are expected to make.
- 3. <u>Training and guidance</u>. All this low image, random search, and haphazard exchange and release relates to and seems to be caused by the way the PERSONNEL are expected to perform a difficult function with what they perceive as almost no guidance or training in ways to do it. They have "rules and regulations" and little else to guide them.
- 4. <u>Regulations</u>. The "rules and regulations" for this function get the same low appraisal which Dr. Demidovich and I see on slips from workshops for other defense and civilian organizations. Regulations often consist of generalities written at high levels by generalists who can't possibly or safely specify details of TASK performance. They tend to be in legalistic language, hard to translate into STINFO work directions.

Each person, whether worker or manager, tends to begin near zero and learn the hard way, largely by trial and error. The fact that personnel in other functions than STINFO get equally little guidance or training may help to save face but is small comfort when the need is so great.

- 5. <u>Mutual aid network needed</u>. The inconsistent fragments of performance that are picked up by individuals or small units can't possibly form a single streamlined and integrated SYSTEM. Yet the fact that this function is nationwide and worldwide and also highly INTERDISCIPLINARY cries out for a NETWORK with more mutual aid and more compatibility and interchangeability of parts.
- 6. Know-how resources exist and should be used. In the defense establishment there is unquestionably much know-how and insight that could help us build such a network if we only collect and organize it. The fact that STINFO people see the need and have made this start makes them a natural spearhead for a system-building program. The security of our scientific and technical information is so inherent in the problem that piecemeal efforts are not only not enough but relying on them may even endanger our nation. Those who are as concerned as I am about security could write some good slips on how to improve the STINFO system so it meets our needs better without endangering our nation.

#### C. REMEDIAL RECOMMENDATIONS

At many different times while this project has been in progress, I wrote on slips my thoughts about best ways to strengthen the STINFO mission. I did that intensively during and after my analysis of the November 19 slips. I have now organized all those "mental low gear" creativity meditations. This section gives a very condensed synopsis of a four-inch-thick classified collection of my interpretations, judgments, and tentative recommendations.

I say tentative because the future of STINFO can best be planned by a TWO-WAY collaboration based on what I have done with the slips I received from you. How well the following measures will work will depend in part on what the Air Force can do as its part of the collaboration. The bridge must be built by working from both banks of the river. This

section is written as PROBLEMS which we can best solve JOINTLY. It puts forth what I would do unless you offer something better.

1. EDITORIAL TEAM: How to qualify a nucleus of STINFO experts. A first need is to train a small task force at the top of a hierarchy of special STINFO PRODUCTIVITY IMPROVEMENT capabilities. STINFO work depends heavily on editorial skills. The Crawford slip method is an editorial system for mass handling of know-how. The team I propose to train should become MULTIPLIERS of capabilities for which I am now a bottleneck. I recommend a two-week seminar to begin relieving that bottleneck.

Membership in the team can be as large as Air Force resources permit. We need a minimum of 12 to 15 for: a) Breadth and volume of slip inputs from them on targets which we attack. b) "Spares" to allow for attrition if some have to leave or fail to qualify for such roles. c) Representation of functions and situations in which implementation will require trained persons of this kind.

Qualification criteria for team membership might be such as:
a) Know-how about STINFO of related functions. b) A wish to learn the Crawford slip method. c) Promising potential as analysts, writers, editors, trainers, leaders. d) Availability for continued contacts and coordination after the seminar ends, as resources for implementation.
e) Hopefully, some representation from R & D, DTIC, or similar interacting functions.

I have recently led two greatly shortened versions of such a seminar: a) Three and a half days at Dayton Dec. 28-31, 1981. b) Two and a half days in a "faculty authorship seminar" for the USC Institute of Safety and Systems Management March 17, April 9-10, with two more days set for April 23-4. I did much the same kind of instruction at USC for 30 years in my masters' project seminar (for individual projects) and in my curriculum laboratory course (for group projects).

The team will learn to do diagnostic and remedial workshops and procedure writing by DOING them under my instruction. They will learn to classify slips, write manuals, and plan implementations the same way. They will become leaders, directors, advisors, consultants, working as a

think tank center. They will assemble, organize, consolidate, and make available the composite know-how of the STINFO mission. By handling this composite know-how they will become the best source of training materials and operational guidance for tasks that are now done poorly because learned largely by trial and error. They can become consultants for research and editorial functions that now seem to be drifting.

2. PROBLEM MANUAL(S): How to create STINFO training materials. Since personnel training is seen as a major need, a first task will be to start collecting existing but unrecorded know-how as content for a training manual or manuals. This is already well under way because of slips from the November 19 workshop. The table of contents in Attachment 2 may well be the approximate structure for the new training manual(s). Those chapters may be used as SUBTARGETS for intensive remedial analyses. People can usually write as many slips on each subtarget as they originally did on the whole.

But ENRICHMENTS are needed through slips from knowledgeable people in such functions as R & D, DTIC, Public Affairs, and others. Those various units which overlap and duplicate STINFO have comparable needs and helpful know-how of different kinds. The R & D know-how is especially needed. Collecting such enrichment slips can be good laboratory experience in workshop leadership. The rotation workshop plan can assemble those enrichments without excessive salary costs for attending workshops.

Once this cross-section of interdisciplinary know-how is in manual form, much of the needed training can be done as SELF-TRAINING. There may not need to be much costly attendance of classes. These people are of an intellectual level quite capable of learning by reading. The roadblock at present is the non-existence of the formulated content to be learned.

3. PROCEDURE MANUAL(S): How to stabilize some step-by-step directions for some critically important tasks. Some tasks must be done RIGHT or not at all. The "general idea" is not good enough if a task may endanger national security or raise costs or cause great confusion when done wrong. Usually about 20% of the tasks cause about 80% of the trouble. (Pareto's law.) The cookbook recipe analogy applies to some tasks.

Typical Air Force regulations sometimes do deal with some of these tasks that are so critical. But even when they do get down to the task level of specificity they may be of little help if people don't know how to find the applicable sections or can't understand them if they do. What Dr. Demidovich and I did for the contracting procedures for the Tactical Air Command (and was adopted by MAC, SAC, and ATC as developed at TAC) may well be a model for STINFO. Our experiences at TAC should make it easier to do for STINFO.

Some essential dimensions of procedure writing as a remedial approach are: a) Priorities on the 20% of tasks, as judged by those close to the actual work. b) Simple step-by-step directions telling what to do and how. c) Language of BEGINNERS. d) First drafts written by persons judged to be well qualified. e) Critiques of first drafts by others to verify correctness, completeness, and clarity. f) SIGNING the agreed-on procedures by those who wrote them and agreed on revisions. (At TAC we had from three to seven signatures on each of 172 sets of procedures at the end of the third morning.)

More about this procedure writing is in some of my printed handouts or publications. It is very exacting and difficult to do at first but gains momentum fast if done under very precise editorial control. Otherwise it is so difficult to do well that many organizations do none of it or do it poorly. Yet without procedures we leave too much to trial and error.

4. UNRECORDED INSIGHTS: How to interchange undocumented know-how and creativity. STINFO now seems to be concerned almost wholly with information on paper, and especially the more formally published and computerized kinds. But books and technical reports and abstracts are very condensed synopses of vastly more know-how in authors' heads back of what they put on paper. Bibliographical methods may hardly touch that latent reservoir of knowledge, to say nothing of the CREATIVITY back of it.

Professor Thomas J. Allen of MIT says R & D engineers rely more heavily on PERSONAL CONTACTS than on published literature. Many of those personal contacts are outside the R & D laboratory, and are INTERDISCIPLINARY in nature. ("Managing the Flow of Technology," MIT Press, Cambridge, 1979)

We need to use more of those outside interdisciplinary resources to INVENT new technologies. Inventing answers may be more fruitful than exchanging what is already known. Made-to-order treasure hunts may beat filing systems for some special needs. Ad hoc "inventors' workshops" may supplement what clearinghouses such as DTIC and NTIS are now doing. The wolf pack may catch more food than lone wolves can. Cross-fertilizing slip inputs from interdisciplinary workshops may trigger break-throughs on problems used as workshop targets. This can be a major resource in such crises or emergencies as often arise in military activities.

We may be able to mobilize the nation's best brainpower for technological inventions of weapons or defenses against new weapons on short notice if qualified STINFO people are available to lead or monitor workshops to tap creativity of those who have a head start toward those inventions.

5. <u>NETWORK: How to enlarge and unify the STINFO function.</u> The seminar I am recommending can begin either as a possible major overhaul or as a less ambitious "first aid" to current operations. Improving what now is can be a good beginning for what might be. Let's learn to walk a straight line before we stage a ballet. Let's tool up by creating a capability to write good slips and to get good slips from others as enrichments. Let's assemble and print the missing training content. Doing this can be good laboratory experience for learners of the Crawford slip method.

Let's begin on the PROBLEM level and move into PROCEDURES after we build a common RATIONALE for the mission. Analysis for the problem and procedure manuals can be our best approach to systems design and network building. Let's do a good job of cleaning our own house so that our neighbors in other functions may join us in a "city beautiful" program. If nobody else responds, we will have made life better where we are.

Systems development begins with reaching a common rationale about the mission and its problems. It moves forward as we stabilize tasks which are under our own control. Next beyond that is stabilizing interactions with other jurisdictions or agencies or functions with which we interact or are interdependent.

The lack of a workable technology for procedure writing for those interjurisdictional interactions explains much of the typical stagnation of interlocked agencies. No unit can change much without upsetting others. The Crawford slip method of procedure writing may break that stalemate. If not, we will have done what we could in our own house.

I dream of a STINFO network in two senses: a) Knitting together existing and overlapping agencies such as STINFO, DLSIE, GIDEP, etc. b) Creating a new network capability for crisis or emergency mobilization of unrecorded insights and creativity by Crawford slip method workshops. If someone at each STINFO location can lead or monitor workshops, perhaps with targeting supplied by our trained editorial team, we can mobilize new insights fast from many places, wherever our most promising "knowers" are likely to be.

Our seminar can start to build such a cadre of workshop leaders or monitors. A good beginning has already been made by Dr. Demidovich by his running a workshop at Albuquerque from his telephone at Dayton. This teleconferencing plan has great potential. The TELETEACH network now in existence is a tangible resource for it. If the seminar I am recommending makes such dreams come through, fine. If not, we will have spent our time on other achievements.

6. START-UP: How to get the STINFO seminar going. If the foregoing plan seems close enough to Air Force needs to warrant consideration, I suggest contracting with me for more detailed planning of targets, agenda, and operations. What I do must depend greatly on what you can do. Neither of us can hand the other a complete take-it-or-leave-it plan for the collaboration. I would hope for eventual doing of all five things I have described. I can't predict how fast the seminar people will learn, nor how far we will get in two weeks. I think a "ripening" period after the two weeks can help us to see further ahead. I see myself as being needed intermittently and part time during a follow-through period, decreasing as others become able to go alone.

For the near term I suggest a contract for fifteen days of my time for the seminar period plus three days for my part of the preparations for those fifteen days. Follow-up work by me may need to be contracted for separately, after we know what is needed. I see the seminar as two weeks for the members. I would arrive on a Sunday and return on a Sunday. In such projects I am much involved on weekends in consolidating what they have done and laying out what they are to do next. Details of the contract can best be firmed up after I get your reactions to this report. The sooner we get going the more likely I am to be free when you need me. Do you have a tentative target date in mind? Please alert me as far ahead as may be feasible.

Some specific decisions by you that may help me to plan realistically are: a) How many people can you make available for the seminar? b) Will the seminar be at Wright-Patterson AFB? c) May we get some slips from some R & D people as enrichments from another vantage point? d) Can other agencies than STINFO be included in the seminar membership? e) Do you now lean toward long range and fundamental efforts or toward short term "first aid" measures? f) What operational difficulties do you see in what I am recommending? Telephone clearance of such items can expedite planning and aid me in adjusting to your needs.

HEAD START FOR STINFO BEGINNERS (ATTACHMENT 1)

HOW TO IMPROVE SERVICE TO STINFO USERS WHO NEED HELP

(Targeting for US Air Force STINFO conference Nov. 17, 1981)

#### MOTIVATIONAL ORIENTATION (Seeking your help)

- a. Each STINFO person has learned much that could help beginners
- b. Today's workshop seeks to build a composite of what you have learned
- c. What advice can you pass along to your successor?
- d. Users of STINFO may differ greatly from one Air Force base to another
- e. The range of users' needs may be exceedingly diverse, even at one base
- f. You may need to help many kinds of users to seek many kinds of needles in many kinds of haystacks
- g. Crawford slip method lets us combine your composite insights well and rapidly

#### MOTIVATIONAL ORIENTATION (Seeking your help) (Cont'd)

- h. Your inputs are INDEPENDENT, not influenced by what others think
- i. They are WRITTEN, available for possible future manual writing
- j. They are LOOSELEAF, one sentence per slip, easy to classify
- k. They are ANONYMOUS, but may be seen by some of you in future manual writing
- Target, "HEAD START FOR BEGINNERS: How to improve service to STINFO users who need help"
- m. Some special directions are needed if your slips are to be helpful

#### DIRECTIONS ABOUT SLIPS (VERY IMPORTANT)

- a. Position your slips NOW to write the LONG way, not across ends
- b. Crowd VERY TOP EDGE of each slip, with no blank space above writing
- Write only ONE sentence per slip (If you must explain, do it on another slip)
- d. Avoid words like IT or THIS, which lose meaning if separated
- e. Write out ACRONYMS in parentheses the first time used (IMPORTANT)
- f. Write in SIMPLE language for beginners or those outside your specialty

#### TARGET A. TROUBLES YOUR SUCCESSOR WILL FACE IN STINFO WORK ON REPLACING YOU

- a. Recall your troubles as a STINFO beginner, or errors you made
- b. Recall troubles of others now doing STINFO work like yours, or errors they are making
- c. Foresee troubles your successor would have if replacing you
- d. Write on slips the most serious of these troubles
- e. Not troubles in the whole STINFO effort but YOUR PART of it, whatever your rank or job
- f. REMEMBER: Long way, top edge, one sentence per slip, write out acronyms, write SIMPLY

#### TARGET B. TROUBLES OF USERS BEING SERVED THROUGH YOUR KIND OF STINFO WORK

- a. Write specific obstacles your users have in hunting their needles in their haystacks
- b. Not users in general but the kinds of users whom YOU try to help
- c. Why can't they find the specific STINFO they need?
- d. Make each slip very specific, concrete, and realistic so beginners can be helped better

#### TARGET C. REMEDIAL ADVICE TO YOUR SUCCESSOR

- a. Brief your successor into your present roles by the best slips you can write
- b. Start each suggestion with a VERB, telling what to do or how ("Pick it up by...")
- c. Make each slip a line worth printing in a training manual
- d. Write simply so beginners can understand and be helped

#### TARGET D. REMEDIAL ADVICE TO USERS OF THE TYPE YOU TRY TO HELP

- a. Think of ways your users could help themselves to find needed STINFO more easily
- b. Write such advice as you can toward a STINFO USERS' self-help manual
- c. Tell them how or how not to hunt for what they need
- d. Start each slip with a VERB as before

#### TARGET E. STINFO PROBLEMS IN HOW TO LANGUAGE (For table of contents of training manual)

- a. If I were God, what would you ask me HOW TO DO in STINFO work?
- b. Not just your own part but the total STINFO PROGRAM
- c. What 10-20 main HOW TO chapters belong in a manual for STINFO training?
- d. What is the most natural structure for such a training manual?
- e. Start each chapter slip with the words HOW TO . . . (How to change engine oil)

#### STINFO PROBLEMS (ATTACHMENT 2)

HOW TO IMPROVE THE FLOW OF SCIENTIFIC AND TECHNICAL INFORMATION NOTE: These subproblems emerged from about 1500 slips from a 40-person workshop November 19, 1981. It was led by Dr. John W. Demidovich, using the Crawford slip method. These are tentative subtargets for possible intensive rotation workshop analyses. They can produce a comprehensive manual, for which this can be the tentative table of contents. By counting off for starting numbers a workshop audience can be distributed for even coverage of the whole outline.

#### A. QUALITY OF THE STINFO PROGRAM

How to improve the STINFO mission

- 1. IMAGE: How to improve status, respect, and support for STINFO
- 2. DOCUMENTS: How to improve document content, format, and usefulness
- 3. CLIENTELE: What types of information seekers to serve for what purposes
- 4. SERVICE: How to improve customer service
- 5. MARKETING: How to get more customers or patronage

#### B. SEARCHING FOR INFORMATION

- 6. REQUESTS: How to improve receiving and accepting requests for information
- 7. SEARCH: How to improve ways to hunt for specific information
- 8. SPEED: How to supply information more quickly
- 9. ELUSIVE MATERIALS: How to utilize informal notes or papers as information sources
- 10. UNRECORDED INFORMATION: How to capture insights from HEADS

#### C. EXCHANGE PLANS

How to improve results from organized exchange systems

- 11. DATA BASES: How to work through organized data clearinghouses (DTIC, NTIS, CDRL, ERIC, GIDEP, WUIS, MASIS, JSIS, etc.)
- 12. COMPUTERS: How to improve exchange of computerized data
- 13. CIVILIAN DATA: How to use universities, libraries, or other private resources

#### D. RELEASE AND DISTRIBUTION

How to handle technology transfer

- 14. ELIGIBILITY: What to release to whom and how
- 15. SECURITY: How to improve handling of classified or limited access information

#### E. PERSONNEL OUTPUT

How to get STINFO work done well

- 16. MANPOWER: How to provide right kinds and amounts of personnel
- 17. PART TIME: How to improve part time service
- 18. GUIDANCE: How to improve direction of work
- 19. RULES AND REGULATIONS: How to conform to what is required
- 20. MANUALS: What manuals to provide for whom about what, and why
- 21. TRAINING: How to improve STINFO training

#### F. SYSTEM DESIGN

How to unify the mission

- 22. ORGANIZATION: How to fit the parts into a consistent whole
- 23. NETWORK: How to improve mutual aid and interaction between the parts
- 24. INNOVATION: How to improve mechanisms for change
- 25. MONEY: How to pay for it all

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Putnam, Margaret AFWL/SUR Kirtland AFB NM 87117

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Schrage, Ronald ASD/XRQ WPAFB OH 45433

Schuessler, Eugene ASD/YZW WPAFB OH 45433

Scott, Jacquelyn "Jackie" ASD/TAFC WPAFB OH 45433

Shultz, Robert 4950th TW/FFAO WPAFB OH 45433

Siegfried, Dorothy AFWAL/TST WPAFB OH 45433

Sommerich, Eve AFWAL/TST WPAFB OH 45433

#### LIST OF ATTENDEES (Concluded)

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Young, Dorothy AFWAL/TST WPAFB OH 45433

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